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TRANSMITTAL LETTER AND U S NAVY RESPONSES TO U S EPA REGION I AND RHODE
ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT COMMENTS ON
FEASIBILITY STUDY ADDENDUM AND PROPOSED PLAN FOR INSTALLATION
RESTORATION PROGRAM SITE 16 NCBC DAVISVILLE RI

8/22/2013
TETRA TECH



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PITT-08-13-036

August 22, 2013

Project No. 112G00822

Mr. Jeff Dale
Remedial Project Manager
Naval Facilities Engineering Command, Mid-Atlantic
4911 South Broad Street, Building 679, PNBC
Philadelphia, Pennsylvania 19112-1303

Reference: Contract No. N62467-04-D-0055
Contract Task Order (CTO) Number 418

Subject: Response-to-Comments Documents for EPA/RIDEM Comments and
Follow-up Comments on **Feasibility Study Addendum and
Proposed Plan for Installation Restoration Program (IRP) Site 16**
The Former Naval Construction Battalion Center, Davisville
North Kingstown, Rhode Island

Dear Mr. Dale:

Enclosed are the response-to-comments (RTCs) documents for comments and follow-up comments received from the United States Environmental Protection Agency (USEPA) Region I and the State of Rhode Island Department of Environmental Management (RIDEM) on the March 2013 version of the Feasibility Study Addendum (FSA) and Proposed Plan (PP) for Site 16. The draft final version of these documents will be prepared and distributed once final consensus has been reached regarding these responses.

Please call me at 412-921-8887 if you have any questions regarding the enclosed documents.

Sincerely,

Lee Ann Sinagoga
Contract Task Order (CTO) Manager

LAS/mlg

Enclosures (2):

- Responses to All Comments on FSA/PP
- Attachment A: USEPA/RIDEM Comments Correspondence and E-mails

cc: David Barney, BRAC Environmental Coordinator (1 copy, 1 CD)
Christine Williams, EPA Region I (2 copies, 2 CDs)
Richard Gottlieb, RIDEM (2 copies, 2 CDs)
Bonnie Capito, NAVFAC (1 copy, 1 CD)
Andrew Glucksman, Mabbett and Associates (1 copy, 1 CD)
P. Steinberg, Mabbett and Associates (1 copy, 1 CD)
Steve King, QDC (1 copy, 1 CD)
John Reiner, Town of North Kingstown (1 copy, 1 CD)
John Trepanowski/Garth Glenn, TtNUS PMO (1 copy, 1 CD)
Lee Ann Sinagoga, TtNUS Project Manager NCBC Davisville (1 copy, 1 CD)
Robert Jupin, TtNUS Risk Assessment Specialist (1 copy, 1 CD)
Joe Logan TtNUS Feasibility Study Engineer (1 copy, 1 CD)
NIRIS RDM (1 hard copy and 1 CD)
TtNUS Project Files, Sharon Currie (1 copy)

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ENCLOSURE 1

Responses to All Comments on FSA/PP

**Navy Response to Rhode Island Department of Environmental Management
Comments and Follow-Up Comments on NCBC Site 16 Feasibility Study
Addendum Report Dated March 19, 2013 for
The Former Naval Construction Battalion Center (NCBC) Davisville
Davisville, Rhode Island
(RIDEM Original Comment Correspondence Dated April 17, 2013)
(RIDEM Follow-Up Correspondence Dated July 12, 2013)**

***RIDEM Comment No. 1 - Page 3-1, Section 3.1.1:** Soil Alternative S-3A, Description, Component 1: Excavation, Paragraph 2 – This paragraph notes that shoring of Building E-107 may be necessary due to the close proximity of the building to the excavation and therefore concern for occupation of the building during said excavation activities. The Navy is proposing to excavate the top two feet of soil. Assuming the construction of the building followed some semblance of the building code there should be a minimum 42" deep footing to get below the frost line. This would negate the need for any shoring. Perhaps the Navy can send someone out to Building E-107 to dig a hole by the foundation to see if the footing goes at least two feet below ground surface. The concern is that we are unnecessarily alarming users of the site. Please remove this concern from the paragraph unless it can be substantiated.

***Navy Response to RIDEM Comment No. 1:** The text that describes the shoring is identical to the text for Alternative S-3. If shoring turns out to be unnecessary, then one aspect of the project will be simpler. In the meantime, identifying that shoring may be needed acknowledges a situation that may need to be addressed. Such acknowledgment should not cause any alarm. A preliminary review of construction drawings indicates the building slab does not have foundations; however, the Navy plans to conduct an evaluation of the slab and foundation as part of the Remedial Design.*

RIDEM Follow-Up to Comment No. 1: Navy response is acceptable.

***Navy Response to RIDEM Follow-Up Comment No. 1:** No further response required.*

***RIDEM Comment No. 1, continued...** Shoring for the excavation, however, could be required depending upon how the Navy addresses exceedances of RIDEM GB TPH Leachability Criteria of 2500 ppm. There are two locations where this criteria are exceeded: 4400 ppm @ SB16-094 at a depth of 5' to 7' bgs and 5100 ppm @ 28-SB-P45 at an unknown depth. There is one other location, TP16-01 from 5' to 9' bgs at 1500 ppm which exceeds the GA Leachability Criteria of 1000 ppm. The Navy may choose to either excavate the contaminated soil or develop a PRG to monitor for TPH in groundwater.

***Navy Response to RIDEM Comment No. 1, continued:** TPH remediation that is not co-located with CERCLA contaminants will be addressed in separate correspondence. The Navy understands its options and plans to monitor TPH in the groundwater. Also, per the historical documentation for Site 16, location 28-SB-P45 appears to have been excavated during a removal action.*

RIDEM Follow-Up to Comment No. 1, continued: Navy response is acceptable.

***Navy Response to RIDEM Follow-Up Comment No. 1, continued:** No further response required.*

***RIDEM Comment No. 2 - Page 3-2, Section 3.1.1:** Soil Alternative S-3A, Description, Component 3: Designation of Waste Management Area – Based on Figure 3-2, the northern portion of the waste management area (WMA) abuts the shoreline of Allen Harbor. Groundwater flow direction is from the WMA to Allen Harbor. This northern boundary needs to be moved south far enough to allow for the monitoring of

August 2013

groundwater leaving the WMA, but prior to entering Allen Harbor to ensure there is no adverse affect, i.e. exceedances of PRGs, from the groundwater on Allen Harbor.

NAVY Response to RIDEM Comment No. 2: *The edge of the WMA does not need to be moved. The results from the wells along the shoreline will be sufficient to determine if contaminants will migrate beyond the WMA boundary.*

RIDEM Follow-Up to Comment No. 2: Navy response is acceptable.

Navy Response to RIDEM Follow-Up Comment No. 2: *No further response required.*

***RIDEM Comment No. 3 - Table 3-1, Federal and State Chemical Specific ARARs:** Please remove the Citation DEM-DSR-01-93, Section 3.39. At our 28 March 2013 BCT meeting RIDEM agreed to allow the Navy to call the recreational land use at the marina "restricted recreational" to clarify that land use at the marina would be restricted to recreational use and that no residential use could take place on the marina property even though the remedial standards for recreational use are the same as the residential standards. Section 3.39 of the RIDEM Remediation Regulations, Amended November 2011 does not apply to this site. It would be more appropriate to cite Section 3.62(a) of the RIDEM Remediation Regulations for the reasons cited in our 26 March 2013 Comment No.1 to the Navy on the NCBC Site 16 Proposed Plan. Please include DEM-DSR-01-93 Section 8.02(A)(iv) which addresses TPH standards.

Navy Response to RIDEM Comment No. 3: *Table 3-1 was created from Table 4-5 from the FS, which presents the ARARs for Alternative S-3. Two ARARs were added to the end of this Table. Agree that the Navy can delete the ARAR for Section 3.39 from the RIDEM Remediation Regulations. Regarding the "recreational" land use issue at Site 16, please note that Site 16 is **fundamentally** an area that has been used in the past and will be used in the future for industrial/commercial purposes. The immediate Bldg. E-107 marina area is only a small portion of Site 16; use is currently restricted to marina use only. While the Navy appreciates the RIDEM concern to assure that "unrestricted" recreational use does not occur in this area, continuing discussions regarding the "appropriate" RIDEM ARARs/definition for this particular area are not warranted given the fundamental nature and use of the area, use restrictions already in place, LUCs that will be added per the Feasibility Study and Proposed Plan documents, and the agreements reached by the BCT to remediate the area.*

Disagree with the addition of Section 8.02(A)(vi) which addresses TPH standards because TPH is not covered under CERCLA.

RIDEM Follow-Up to Comment No. 3: From RIDEM's perspective the recreational use at the marina property is unrestricted and therefore any recreational activity could occur on this property under the RIDEM Remediation Regulations, Amended 2011. Limiting the property to marina use is an issue that will be addressed as part of the MARAD transfer. Otherwise the Navy response to this comment is acceptable noting that TPH will be addressed under separate correspondence.

Navy Response to RIDEM Follow-Up Comment No. 3: *Navy will eliminate the phrase "restricted recreational". For simplicity, the term "recreational" will be used. In the later discussions of the alternatives, such as Sections 3.1.1 and 4.2.1, it will be noted that RIDEM agrees that the excavation of the upper 2 feet of contaminated soil, backfill with clean fill, maintenance of the fill as a cover, and LUCs to control excavation in the marina area is acceptable as a remedy in the vicinity of the marina building.*

***RIDEM Comment No. 4 - Table 3-3, Federal and State Action Specific ARARs – Alternative S-3A:** Please add the following RIDEM Office of Waste Management Solid Waste Regulation No. 2 Citations: Section 2.1.08(c)(1)(i)(B). This portion of the regulation addresses minimum number of upgradient and

August 2013

downgradient monitoring wells and Sections 2.1.08(c)(1)(i)(C) & (D). These regulations govern where downgradient monitoring wells can be located in relation to a waste management unit.

Navy Response to RIDEM Comment No. 4: Agree. These three subsections will be added to the list of ARARs.

RIDEM Follow-Up to Comment No. 4: Navy response is acceptable.

Navy Response to RIDEM Follow-Up Comment No. 4: No further response required.

***RIDEM Comment No. 5 - Page 3-4, Section 3.1.2, Detailed Analysis, Alternative S-3A, Short-Term Effectiveness, Paragraph 4, Last Sentence:** Based on the Navy response to Comment No. 1 perhaps the reference to the manufacture of steel used in sheet piles for shoring could be eliminated since a two-foot deep excavation is unlikely to require shoring.

Navy Response to RIDEM Comment No. 5: The comment refers to the summary of the sustainability discussion. The Navy is not proposing to delete the reference to the potential use of shoring, so the subject text will not be revised.

RIDEM Follow-Up to Comment No. 5: Navy response is acceptable.

Navy Response to RIDEM Follow-Up Comment No. 5: No further response required.

***RIDEM Comment No. 6 - Page 3-5, Section 3.1.2, Detailed Analysis, Alternative S-3A, Implementability, Paragraph 2, Sentence 2:** This sentence states that LUCs would be incorporated into the Land Use Control Implementation Plan (LUCIP). Please clarify that LUCs (institutional controls) would result in an environmental land use restriction (ELUR) recorded on the property's deed as described in Section 8.09 of the RIDEM Remediation Regulations, as Amended November 2011.

Navy Response to RIDEM Comment No. 6: Details regarding the establishment and enforcement of the LUCs will be developed in the LUC Remedial Design; the actual mechanisms/tools used to apply/implement the LUCs are not included in the FSA. This approach will allow the Navy the flexibility needed to determine "how" to best apply/implement the LUCs. Specification of the actual instruments/mechanisms to be used (at this time) may unnecessarily constrain or complicate the process.

RIDEM Follow-Up to Comment No. 6: Since it is fairly certain that residential use will not be allowed on this property, please explain how the Navy will implement this restriction if it is not done through an ELUR. All that RIDEM is asking is if the Navy is going to place an ELUR that it be done in accordance with Section 8.09 of the RIDEM Remediation Regulations, Amended 2011. If it is not going to be accomplished this way then please explain some of the other possibilities for accomplishing the same goal.

Navy Response to RIDEM Follow-Up Comment No. 6: The substantive requirements of Section 8.09 can be accomplished through the implementation of a deed restriction which would be provided to RIDEM for review. This will be noted on Table 3-2.

***RIDEM Comment No. 7 - Page 3-7, Section 3.2.1, Groundwater Alternative G-3B, Description, Component 2: Monitored Natural Attenuation, Paragraph 1:** This paragraph states that because of the low frequency of detection and low concentrations that arsenic and naphthalene would not be included in the monitoring program. Since they are COCs they need to be included in the monitoring program. If after an agreed upon number of sampling rounds that these COCs do not exceed PRGs then the parties can

August 2013

discuss discontinuing monitoring for said COCs. RIDEM concurs that iron and manganese need not be considered in the long-term monitoring program as these constituents are considered nutrients.

Navy Response to RIDEM Comment No. 7: As noted on Page 3-6, this component is nearly identical to the same component (MNA) described for Alternative G-2 in the FS. While the Navy does not necessarily disagree with the addition of arsenic and naphthalene, specifics of the LTM program will be worked out later in the remedial design process.

RIDEM Follow-Up to Comment No. 7: Provided that COCs can be added or deleted during the design phase of the Long-Term Monitoring Program the Navy response is acceptable.

Navy Response to RIDEM Follow-Up Comment No. 7: No further response required.

***RIDEM Comment No. 8 - Page 3-7, Section 3.2.1, Groundwater Alternative G-3B, Component 3: LUCs, Paragraph 1:** Similar to Comment No. 6, RIDEM is concerned that the LUC will result in an ELUR on the property in accordance with Section 8.09 of the RIDEM Remediation Regulations, as Amended November 2011. Also of concern to RIDEM is that Site 16 be used for industrial/commercial purposes with the exception of the marina which is to be used for recreational purposes and that this information is described in the ELUR. The requirement that this property be used specifically for port related activities is an issue that is of concern to the Navy, Maritime Administration and QDC and should be described separate from the ELUR.

Navy Response to RIDEM Comment No. 8: Please see Navy response to RIDEM Comment No. 6.

RIDEM Follow-Up to Comment No. 8: See RIDEM Comment on Navy response to Comment No. 6.

Navy Response to RIDEM Follow-Up Comment No. 8: Necessary use restrictions can be applied through a deed restriction and would be provided to RIDEM for review. This will be noted on Table 3-5.

***RIDEM Comment No. 9 - Page 3-8, Section 3.2.1, Groundwater Alternative G-3B, Component 3: LUCs, Paragraph 3:** "Thus, the additional LUC would be applied to areas where VOC-contaminated shallow groundwater is present, and wherever vapor intrusion could be a potential pathway. This is assumed to be coincidental with the area where groundwater use is prohibited." With respect to building construction the first sentence implies that there will be areas where there will be no restriction on building construction methods. For the second sentence, RIDEM was under the impression that groundwater use was to be restricted over the entire site. If groundwater use is to be restricted over the entire site then building construction methods will also be restricted over the entire site. Please confirm whether groundwater use will be restricted over the entire site and revise this paragraph as appropriate.

Navy Response to RIDEM Comment No. 9: As noted on Page 3-7, this component is nearly identical to the same component (LUCs) described for Alternative G-2 in the FS. RIDEM is correct that a LUC restricting groundwater use will likely be applied over the entire Site 16 boundary (all three parcels of land). It is also likely Parcel 7 in its entirety will have a LUC restricting groundwater use, based on upgradient conditions and other IR sites within the parcel.

RIDEM is correct that it is likely there will also be LUCs related to building construction to mitigate the potential for VI applied to all three parcels of land. This LUC would require an evaluation, and possibly require mitigation techniques be implemented. It is possible that for specific areas within each parcel that an evaluation conducted by future owners would determine actual mitigation techniques are not necessary based on plume conditions. Because this text was accepted, no revisions will be made to the FSA.

RIDEM Follow-Up to Comment No. 9: RIDEM is not asking the Navy to change the text in the FS, only the FSA. Please revise as appropriate.

Navy Response to RIDEM Follow-Up Comment No. 9: A detail that was left out of the text was a reference to Figure 4-8 of the FS which shows the extent of the groundwater LUC boundary. This LUC is described in the paragraph that precedes the paragraph that is the subject of this comment. Therefore, the preceding paragraph will be revised as follows, as shown by the underlined text:

"In addition to the existing restrictions, LUCs would be prepared to prohibit the use of groundwater. Similarly, LUCs would be added to prevent residential use of the site. Figure 4-8 of the FS shows the groundwater LUC boundary."

Thus, the paragraph that is the subject of this comment does not need to be revised.

***RIDEM Comment No. 10 - Page 3-10, Section 3.2.1, Groundwater Alternative G-3B, Component 4: Contingency Remedy:** Please note that any monitoring frequencies presented in the FSA are for estimating purposes and will be finalized during the remedial design.

Navy Response to RIDEM Comment No. 10: Agree that the number of wells and sampling frequency are for estimating purposes only; this will be noted in the text. Note that the subject text was taken from the description of the treatment component for Alternative G-4 in the FS.

RIDEM Follow-Up to Comment No. 10: Navy response is acceptable.

Navy Response to RIDEM Follow-Up Comment No. 10: No further response required.

***RIDEM Comment No. 11 - Table 3-1, Chemical Specific ARARs Soil:** Please include RIDEM Remediation Regulations (DEM-DSR-01-93) Sections 8.01 Remedial Objectives which are more stringent than USEPA criteria, Section 8.08 (A) and (B) Points of Compliance for Soils and Groundwater, respectively, Section 8.10 Compliance Sampling and Section 9.02 Remedial Objectives which address groundwater, surface water, sediment, soil and air remedial objectives.

Navy Response to RIDEM Comment No. 11: A final response to this comment will be provided post the planned "ARARs" teleconference scheduled for late July 2013. The following preliminary responses are provided for discussion purposes.

Table 3-1 was created from Table 4-5 from the FS, which are the ARARs for Alternative S-3. The Navy has proceeded with the development of the FS on the assumption that when comments are provided, they are comprehensive, complete, and address all concerns as presented at the time. Reaching this point in the CERCLA process and having new comments causes significant delay by requiring significant rework, re-assessment of previous positions, creates confusion, and substantially undermines our ability to implement a timely remedy to the benefit of the community.

Section 8.01 Remedial Objectives was not included because the values in Section 8.02 are being used. There are several instances where RIDEM values in the tables in Section 8.02 do not meet the requirements of Section 8.01. For example, per Table 6-50 of the RI, the RIDEM criterion for arsenic in soil is 7 mg/kg, but the criterion based on 10^{-6} is 3 mg/kg. Similarly, per Table 6-51 of the RI, the RIDEM GA criteria for benzene and vinyl chloride are 5 ug/L and 2 ug/L, respectively. But the criteria based on 10^{-6} are 1.1 ug/L and 0.09 ug/L, respectively.

Section 8.08(A) and (B) Points of Compliance for Soils and groundwater were not included because media-specific PRGs are to be met as part of the remediation process. The extent of the remediation is described

August 2013

in the FS and FSA. Therefore, the general description of points of compliance in this section does not provide any additional protection that is not already included in the alternatives.

Section 8.10 Compliance Sampling does not need to be included because post-remediation sampling and long-term monitoring will be developed as part on the Remedial Design.

Section 9.02 Remedial Objectives is not included because it is part of Section 9.0 Remedial Action Work Plan which is an administrative section. In any case, remedial objectives have already been described by the PRGs in the FS.

RIDEM Follow-Up to Comment No. 11: The consideration of ARARs is an on-going process through the signing of the ROD. The development of new alternatives necessitates the reconsideration of ARARs. It would be a disservice to the community not to consider this important step. RIDEM therefore does not understand why the Navy seems to object to the consideration of ARARs for the new alternatives considered in the Feasibility Addendum, especially since they were derived from numerous discussions between the Navy, USEPA, and RIDEM. As noted in the Navy response, the disposition of ARARs will come from the teleconference call which is to be scheduled sometime in late July.

Navy Response to RIDEM Follow-Up Comment No. 11: *Per RIDEM (Mr. Gottlieb) E-mail of July 31, 2013, RIDEM has evaluated the need for Sections 8.01, 8.08 (A) & (B) and 9.02 and has concluded that these particular regulations do not need to be ARARs for NCBC Davisville Site 16. Section 8.10 was discussed during the July 31, 2013 teleconference. The text of the FSA will be updated to acknowledge that "the Navy will consider the compliance sampling specifications presented in Section 8.10 of the RIDEM Regulations (DEM-DSR-01-93) in the development of the Remedial Action Work Plan and the Long-Term Monitoring Plan, as appropriate. However, this specific section of the regulations will not be listed as an ARAR.*

***RIDEM Comment No. 12 - Table 3-2, Location Specific ARARs Soil:** Please include RIDEM Remediation Regulations (DEM-DSR-01-93) Section 8.09 Institutional Controls as this describes how ELURs are to be prepared and administered.

Navy Response to RIDEM Comment No. 12: *A final response to this comment will be provided post the planned "ARARs" teleconference scheduled for late July 2013. The following preliminary responses are provided for discussion purposes.*

Please see Navy response to RIDEM Comment No. 6. Also, note that per the BCT teleconference of June 11, 2013, an ELUR is an "administrative" (not a "substantive") requirement and should not be specifically "called out" as an ARAR.

RIDEM Follow-Up to Comment No. 12: See RIDEM comment to Navy response for Comment 11.

Navy Response to RIDEM Follow-Up Comment No. 12: *Section 8.09 was discussed during the July 31, 2013 teleconference. The relevant ARAR tables will be updated to note that the "substantive elements" of Section 8.09 do apply; however, the Appendix G form is not a "substantive element". The Navy will incorporate relevant RIDEM ELUR language into the deed for the property rather than execute an ELUR on RIDEM forms. Please also see Navy response to RIDEM Comment No. 6.*

***RIDEM Comment No. 13 - Table 3-4, Chemical Specific ARARs Groundwater:** Please include RIDEM Remediation regulations (DEM-DSR-01-93) Section 9.02 (A) groundwater Objectives requires a remedial objective for substances which have actual or potential impacts on groundwater.

August 2013

Navy Response to RIDEM Comment No. 13: *A final response to this comment will be provided post the planned "ARARs" teleconference scheduled for late July 2013. The following preliminary responses are provided for discussion purposes.*

Table 3-4 was created from Table 4-24 from the FS, which are the ARARs for Alternative G-3A. Per the response to Comment No. 11, Section 9.02(A) Remedial Objectives is not included because it is part of Section 9.0 Remedial Action Work Plan which is an administrative section. In any case, remedial objectives have already been described by the PRGs in the FS.

RIDEM Follow-Up to Comment No. 13: See RIDEM comment to Navy response for Comment 11.

Navy Response to RIDEM Follow-Up Comment No. 13: *Per RIDEM (Mr. Gottlieb) E-mail of July 31, 2013, RIDEM has re-evaluated the need for Section 9.02 and has concluded that this particular section does not need to be an ARAR for NCBC Davisville Site 16.*

***RIDEM Comment No. 14 - Page 4-3, Section 4.2.1, Marina Soil remediation, Description of Component, Paragraph 2:** See Comment No. 1 as it not clear that shoring would be required for a two foot deep excavation.

Navy Response to RIDEM Comment No. 14: *Please see the response to Comment No. 1.*

RIDEM Follow-Up to Comment No. 14: Response is acceptable.

Navy Response to RIDEM Follow-Up Comment No. 14: *No further response required.*

***RIDEM Comment No. 15 - Page 5-4, Section 5.1.5, Short-Term Effectiveness Soil, Paragraph 2, Sentence 4:** Please explain for Alternative S-3A how exposure to remaining contaminants that may leach from the soil into the groundwater would be addressed by the WMA. As long as the leached contaminants remain under the WMA they would not be addressed, i.e. meet PRGs, and if they migrate beyond the WMA then they would need to be addressed.

Navy Response to Comment No. 15: *Comment acknowledged. Agree that contaminant concentrations beneath the WMA can be greater than PRGs. Contaminants (i.e., the VOCs) that may migrate beyond the WMA at unacceptable concentrations and pose unacceptable risk will be addressed by the contingency remedy. This has been explained elsewhere in the FSA in the discussions of the groundwater alternatives.*

RIDEM Follow-Up to Comment No. 15: Navy response is acceptable.

Navy Response to RIDEM Follow-Up Comment No. 15: *No further response required.*

***RIDEM Comment No. 16:** Comments on the Proposed Plan have been previously provided to the Navy on 26 March 2013.

Navy Response to Comment No. 16: *Comment acknowledged.*

RIDEM Follow-Up to Comment No. 16: Navy response is acceptable.

Navy Response to RIDEM Follow-Up Comment No. 16: *No further response required.*

**Navy Response to United States Environmental Protection Agency (USEPA)
New England – Region I Comments and Follow-Up Comments on
Draft Feasibility Study Addendum for
Installation Restoration Program Site 16 Dated March 2013 for
The Former Naval Construction Battalion Center (NCBC) Davisville
Davisville, Rhode Island
(USEPA Region I Correspondence Dated May 6, 2013)
(USEPA Region I E-mail Dated July 9, 2013)**

Note to the reader: Some comments (and responses) are multi-part. Please note that responses are always presented in *italics* (to distinguish the comments from responses).

General Comments

***EPA General Comment No. 1:** The text of this Addendum should specify that based on further Site evaluation, including the forensic study of Allen Harbor sediments, it was determined that sediment (although evaluated in the risk assessments and in the Feasibility Study) was not a media of concern for the CERCLA remedy because sediment contamination was not found to be site-related and does not exceed local anthropogenic background levels. Therefore, there are no sediment COPCs.

Navy Response to EPA General Comment No. 1: Agree. This can be added.

EPA Follow-up to General Comment No. 1: New General Comment No. 1 - Please note that EPA is drafting model ROD groundwater language and will likely require that the ROD use the model language. EPA will provide the model language shortly.

Navy Response to EPA Follow-up General Comment No. 1: Comment acknowledged. Please forward referenced language. Per E-mail from Ms. Williams to Mr. Barney (8.15.13), the referenced model language may not be available this fiscal year.

***EPA General Comment No. 2:** There are "cleanup levels" for groundwater and soil outside of the waste management area compliance boundary and "performance standards" (for monitoring) for groundwater and soil leachability inside of the compliance boundary.

Navy Response to EPA General Comment No. 2: Agree. This will be made explicit, although this type of text is already in Section 4.1.1.

***EPA General Comment No. 3:** The text of this Addendum should specify that based on re-evaluating site conditions and regulatory requirements the number and variety of soil alternatives carried forward in the Feasibility Study Addendum have been reduced to just Alternatives S-1 and S-5, along with adding Soil Alternative S-3A. Soil Alternatives S-2, S-3, S-4 and S-6 from the Feasibility Study were not re-evaluated based on the standards and conditions for soil discussed in the FS Addendum. If the Navy prefers to keep the discussion of all of the alternatives, the evaluation should group those soil alternatives that manage waste in place and those that do not.

Navy Response to EPA General Comment No. 3: The intent of the FSA was to add alternatives and common components so that the original alternatives will still be compared. Alternatives S-2, S-3, S-4, and S-6 are still part of the overall analysis. As mentioned in this comment, the discussions of these alternatives that leave waste in place will be discussed separately from Alternative S-1 (No Action) and Alternative S-5 (Complete excavation) which removes all waste. The text in Section 4.1 will be revised to note which alternatives include a WMA.

***EPA General Comment No. 4:** Under Soil Alternatives S-1 and S-5 there is no management of soil contamination in place and therefore no waste management area. Under these soil alternatives all of the groundwater alternatives need to achieve drinking water standards and soil needs to achieve leachability standards throughout the Site (the NCP analysis should show that Soil Alternative S-1 fails to meet the leachability standards, while S-5 can achieve them). Under Soil Alternative S-3A (and the other alternatives that have a WMA) contaminated soil is managed in place, therefore all of the groundwater alternatives need to achieve drinking water standards outside of the compliance boundary for the waste management area (except where the boundary abuts salt water). Therefore, there are two sets of NCP analysis needed for each groundwater alternative, including different calculations for how long MNA will take to achieve final groundwater cleanup levels, depending on whether the standards need to be met for the entire Site or just for outside of the compliance boundary for the WMA.

Navy Response to EPA General Comment No. 4: Agree. The discussion described in the comment will be added as appropriate to the text, primarily, Section 5 – Comparative Analysis. The times to reach PPGs throughout the plume without consideration of the WMA were estimated in the early versions of the FS. These times will be included per the comment. No additional calculations are needed.

***EPA General Comment No. 5:** For groundwater alternative pairings with Soil Alternatives S-1 and S-5 there are just groundwater cleanup standards (as Chemical-specific ARARs). For groundwater alternative pairings with Soil Alternative S-3A (and other soil alternatives that manage waste in place) there are cleanup standards (as Chemical-specific ARARs) for outside of the WMA compliance boundary and performance standards (as Action-specific ARARs to establish monitoring standards) for inside of the compliance boundary. Regarding soil leachability requirements, Soil Alternatives S-1 and S-5 have soil cleanup standards, based on leachability standards as Chemical-specific ARARs. For Soil Alternative S-3A the leachability standards are Action-specific ARARs that establish performance standards for monitoring at the compliance boundary.

Navy Response to EPA General Comment No. 5: Agree. The analysis of groundwater alternatives and the comparative analysis will be revised to reflect differences associated with soil alternatives that leave waste in place and Alternative S-5 which removes all waste. The leachability criteria will be added to the ARAR table as performance standards within the WMA.

***EPA General Comment No. 6:** Incorporate into the FSA text comments EPA has made to the draft Proposed Plan on May 6, 2013.

Navy Response to EPA General Comment No. 6: Comments that are incorporated into the Proposed Plan will be incorporated into the FSA.

Specific Comments

***EPA Specific Comment No. 7 - Page 1-1, §1.1.1:** In the last sentence insert “modifies and” before “supplements.”

Navy Response to EPA Specific Comment No. 7: Agree.

***EPA Specific Comment No. 8 - Page 1-1, §1.1.2:** Section 1 also should discuss the sections of the FS not carried forward into the FSA (specifically all discussion of sediment as a media of concern and Soil Alternatives S-2, S-3, S-4, and S-6 – see General Comments, above).

Navy Response to EPA Specific Comment No. 8: *Partially Agree. The text will be modified to be specific about the alternatives that are being considered in the FSA comparative analysis. That is, all of the alternatives are being carried forward.*

***EPA Specific Comment No. 9 - Page 1-3, §1.3:** Either add a discussion of the changes from the FS (see general comments above) to this section or make the "FSA Changes from the FS" as a new §1.4 (including listing only the alternatives carried forward into the FSA) and remove the current §1.4 text.

Navy Response to EPA Specific Comment No. 9: *Partially agree. The section will be renamed "FSA Changes from the FS." Additional text will be added to summarize the changes (additional alternatives and additional common elements/components). However, the alternatives in the FS are still being considered and will still be listed for reference.*

EPA Follow-up Comment to Specific Comment No. 9: The "FSA Changes from the FS" also needs to include any changes in the NCP criteria analysis we have discussed concerning the pairing of soil alternatives that have or do not have a WMA with the GW alternatives.

Navy Response to EPA Follow-up Comment to Specific Comment No. 9: *The subject section was intended to be a very general description of the content of the FSA. A sentence will be added to indicate that changes in the NCP criteria analysis concerning the pairing of soil alternatives that have or do not have a WMA with the GW alternatives are also included in the discussions in Sections 3.0, 4.0, and 5.0.*

***EPA Specific Comment No. 10 - Page 2-1, §2.2.1:** Incorporate EPA comments concerning the Soil RAOs to the draft Proposed Plan.

Navy Response to EPA Specific Comment No. 10: *Agree. The Soil RAOs will be revised to be per the comments on the Proposed Plan.*

***EPA Specific Comment No. 11 - Page 2-1, §2.2.2:** Incorporate EPA comments concerning the Groundwater RAOs to the draft Proposed Plan.

Navy Response to EPA Specific Comment No. 11: *Agree. The Groundwater RAOs will be revised to be per the comments on the Proposed Plan.*

EPA Follow-up Comment to Specific Comment No. 11: Revise this response after EPA has sent the Navy the draft model language for groundwater discussed in New General Comment 1, above.

Navy Response to EPA Follow-up Comment to Specific Comment No. 11: *The Groundwater RAOs which were revised per the USEPA Comments on the Proposed Plan will be revised again, as necessary, based on receipt of model ROD language per EPA Follow-up Comment No. 1. However, as noted above, the referenced model language may not be available this fiscal year.*

***EPA Specific Comment No. 12 - Page 3.1, §3.1:** Change the name of S-3A to "Excavation, Off-site Disposal, Soil Cover, Monitoring, LUCs, and Five-Year Review."

Navy Response to EPA Specific Comment No. 12: *Partially Agree. The name will be changed to Shallow Excavation, Off-Site Disposal, Cover, Monitoring, and LUCs. ("Five-Year Review" is not being included because it is a requirement for all Alternatives rather than a component. The term was not used in the names of the alternatives presented in the FS.)*

***EPA Specific Comment No. 13 - Page 3.1, §3.1.1:** Change Component 3 to "Maintain a two-foot thick permeable soil cover over areas of contaminated subsurface soil."

Navy Response to EPA Specific Comment No. 13: *Partially Agree. The component will be revised to indicate that cover material (both existing cover and new cover added as a result of excavation backfill) is in place over the site waste material. The discussion of the WMA will be retained. The name of the component will be changed to "Cover".*

Add a Monitoring Component.

Response: *Agree. A monitoring component will be added, but details of the monitoring will be included in the groundwater alternatives.*

Component 1 – For the NCA area the volume of contaminated soil to be excavated is identified, but in the Marina area the volume of specific contaminants to be removed is cited. Use a consistent description for both areas (either soil volume, contaminant volume or both).

Response: *The text will be revised to be clear that the contaminant mass that is listed is the total for the soil excavated from the NCA and the marina building area.*

***EPA Specific Comment No. 14 - Page 3.2, §3.1.1:** Change title of Component 3 to "Maintain a two foot thick soil cover over areas of contaminated subsurface soil in the NCA and Marina areas."

Navy Response to EPA Specific Comment No. 14: *This comment appears to duplicate part of Specific Comment No. 13. Refer to the response in Specific Comment No. 13.*

Add a new first paragraph that states: "The two-foot thick layer of clean soil cover installed after the excavation of the NCA and Marina areas will be maintained as a cover to prevent direct contact with contaminated subsurface soils."

Response: *Agree. The proposed text will be revised as noted below and will be added to the "Cover" component discussion.*

"The two-foot thick layer of clean backfill placed after the excavation of portions of the NCA and Marina areas will be maintained as a cover to prevent direct contact with contaminated subsurface soils."

In the first sentence of the present first paragraph, change "WMA" to "waste management area (WMA)."

Response: *Agree. This revision will be incorporated where "WMA" is first used.*

In the second sentence, change "boundary" to "extent of the soil cover and compliance boundary." In the last sentence after "performance standards" add: "for monitoring at the compliance boundary of the WMA." In addition, Rhode Island soil leachability standards are also performance standards for monitoring at the WMA compliance boundary, but are not required to be achieved within the compliance boundary."

Response: *Partially agree. The suggested change for the second sentence will be "extent of existing soil cover and backfill placed in excavations as cover and compliance boundary." The additional proposed text in the comment that refers to monitoring and performance standards will be included.*

***EPA Specific Comment No. 15 - Page 3-2, §3.1.1:** Add a new Component 4: "Component 4: Monitoring - Monitoring will be established at the WMA compliance boundary to ensure contaminated groundwater exceeding performance standards are not migrating beyond the compliance boundary either into areas of adjacent groundwater or into marine sediments and surface water in Allen Harbor or Narragansett Bay. Compliance monitoring will be conducted at least yearly to ensure the LUCs, described below, remain in effect and are enforced."

Navy Response to EPA Specific Comment No. 15: *Agree. The additional component will be added to the description; however, monitoring costs are being carried in the groundwater alternative costs.*

***EPA Specific Comment No. 16 - Page 3-2, §3.1.1:** For the current Component 4 change the text to: "LUCs would be implemented to control excavation and disturbance of the two-foot thick soil cover in the NCA and Marina areas and prevent exposure of the contaminated soil below the cover. In the event work is required below any cover areas, any work within the contaminated subsoil would need to be performed according to a health and safety plan and an approved soil management plan. LUCs would be established to prevent residential development within areas of the NCA exceeding unrestricted use risk standards. Within the Marina area LUCs would be implemented to permit the continued use of the area as a marina or other recreational use, as long as the two-foot thick clean cover is maintained. The LUCs would also establish a requirement that any work beneath marina building foundations would need to be performed according to a health and safety plan and an approved soil management plan."

Navy Response to EPA Specific Comment No. 16: *Generally agree. The text will be revised per the suggested text, except as indicated below:*

*"LUCs would be implemented to control excavation and disturbance of the ~~two-foot-thick~~ soil cover in the NCA and Marina areas and prevent exposure of the contaminated soil below the cover. In the event work is required below any cover areas, any work within the contaminated subsoil would need to be performed according to a health and safety plan and an approved soil management plan. LUCs would be established to prevent residential development within areas of the NCA exceeding unrestricted use risk standards. Within the Marina area LUCs would be implemented to permit the continued use of the area as a marina ~~or other recreational use~~, as long as the two-foot thick clean cover is maintained. The LUCs would also establish a requirement that any work beneath marina building would need to be performed according to a health and safety plan and an approved soil management plan. **The mechanism for implementing LUCs on property that the Navy has already transferred will be determined during the RD.**"*

EPA Follow-up Comment to Specific Comment Nos. 16 and 18: The Navy had removed the term "or other recreational use" but the term "marina" is not part of the Remediation Regulations and appears not to be a defined term anywhere in the AR for this remedial action. The remedial alternatives being proposed for the area meets the State's remediation standards for any recreational use (so there is no CERCLA basis for limiting the use to just a marina). The Navy may have its own reasons for limiting the area to just "marina" use (however that is defined), but there's no CERCLA basis for requiring that level of restriction. Navy has indicated that the phrase, "or other recreational use" will be re-inserted since the transfer documentation can be much more restrictive than the environmental restrictions.

Navy Response to EPA Follow-up Comment to Specific Comment Nos. 16 and 18: *Agree. The phrase "or other recreational use" will be added per the original comments.*

***EPA Specific Comment No. 17 - Page 3-2, §3.1.1:** Before the second paragraph of the current Component 4 insert: "Component 6: 5-Year Review."

Navy Response to EPA Specific Comment No. 17: *Disagree. As in the FS, the Five-Year review will not be included as a component of the remedy. The review is a requirement under CERCLA.*

EPA Follow-up Comment to Specific Comment No. 17 (and a portion of No. 26): EPA is unclear on the Navy's response - a 5-year review is a component of any alternative that leaves contamination exceeding CERCLA risk standards in place. The Navy's stated answer is the reason why the 5-year review is a component of the alternative (and all alternatives that leave contamination in place). Navy has indicated that adding a subtitle, "Component # Five Year Reviews" will address this comment for both the alternative 3B & GW #A.

Navy Response to EPA Follow-up Comment to Specific Comment No. 17: *Agree. The proposed revisions (at two places within the text) will be made.*

***EPA Specific Comment No. 18 - Page 3-3, §3.1.2:** Change the beginning of the first sentence of the second paragraph to: "Maintenance of the two-foot thick clean cover, monitoring and LUCs regulating the protection of the cover and the..."

Navy Response to EPA Specific Comment No. 18: *Partially agree. The suggested text will be revised to delete the cover thickness: "Maintenance of the cover, monitoring, and LUCs regulating the protection of the cover and the..."*

Change the last two sentences to: "Maintenance of the two-foot thick clean cover, monitoring and LUCs in the Marina area will permit the continued use of the area as a marina or other recreational use by preventing exposure to contaminated subsoils. Soil Alternative S-3A will achieve all Soil RAOs."

Response: *Agree, except that the phrase "or other recreational use" will be deleted. See Navy response to EPA Comment No. 16.*

EPA Follow-up Comment to Specific Comment No. 18: See EPA Follow-up Comment No. 16.

Navy Response to EPA Follow-up Comment to Specific Comment No. 18: See Navy Response to EPA Follow-up comment No. 16.

***EPA Specific Comment No. 19 - Page 3-5, 2nd Paragraph:** The last sentence states that some property within the remediation area for soil has been transferred. Navy needs to identify how it will establish LUCs on property it no longer owns (for example, if the Navy needs to purchase an easement the cost of the easement needs to be included in the projected cost for the alternative).

Navy Response to EPA Specific Comment No. 19: *Per responses to similar comments on this subject in the FS, the Navy will not provide the details for the implementation of LUCs in the FSA. The steps to apply LUCs to parcels that the Navy no longer controls will be determined by Navy NAVFAC BRAC Program Management Office. Details of the establishment and enforcement of such LUCs will be developed in the LUC Remedial Design. This approach will allow the Navy the flexibility needed to determine "how" the LUCs will be applied. Specification of the actual instruments/mechanisms to be used (at this point in time) may unnecessarily constrain or complicate the process.*

EPA Follow-up Comment to Specific Comment Nos. 19, 25, and 30: The text should at least state that for property the Navy no longer owns that it will establish legally enforceable environmental restrictions on the properties and that the Navy will retain its responsibility for enforcing the environmental restrictions established. This is the language I mentioned during the conference call today.

Navy Response to EPA Follow-up Comment to Specific Comment No. 19: Agree. The text will be revised to incorporate the intent of the language provided in the comment.

***EPA Specific Comment No. 20 - Page 3-5, Cost:** See previous comment concerning including the cost of any potential LUC easement that may be required on property the Navy no longer owns in the cost of the alternative.

Navy Response to EPA Specific Comment No. 20: The costs for potential LUC easements will be the same for all alternatives and will not affect the remedy selection. The cost estimates will not be revised. Also, see the response to Comment No. 19.

***EPA Specific Comment No. 21 - Page 3-5, §3.2:** As previously discussed, the analysis for Groundwater Alternative G-3B needs to take into account that it might be paired with either soil alternatives that do not manage waste in place (S-1 or S-5), in which case the alternative needs to achieve drinking water standards throughout the Site, or with soil alternatives (S-2, S-3, S-3A, S-4, S-6) which does manage waste in place (where groundwater only would need to achieve drinking water standards outside of the compliance boundary of the waste management area).

Navy Response to EPA Specific Comment No. 21: Agree. The discussions will be revised to address differences in the evaluation when pairing groundwater alternatives with soil alternatives that do not manage waste in place (S-5).

***EPA Specific Comment No. 22 - Page 3-5, Component 1:** The current text is written to address if this groundwater alternative is paired with Soil Alternative S-3A (as noted, above there also has to be a discussion whether Alternative G-3B could achieve groundwater cleanup standards throughout the Site Soil Alternative S-5 is selected. Regarding the current text, the text analysis needs to be revised because the waste management areas include all areas of the NCA and Marina areas where subsurface contamination is left in place under a soil cover.

Navy Response to EPA Specific Comment No. 22: Agree. Similar to Comment No. 21 above, the discussions will be revised to address differences in the evaluation when pairing groundwater alternatives with soil alternatives that do not manage waste in place (S-5). However, note that (with the exception of Alternative S-6), the soil alternatives rely on the existing soil cover. The extent of the WMA has been defined as indicated (for example on Figure 3-2) based on the extent of waste and debris.

***EPA Specific Comment No. 23 - Page 3-6, Component 2:** Need to discuss how long MNA will take after treatment under circumstances where there is a WMA (such as Soil Alternative S-3A) or not (Soil Alternative S-5).

Navy Response to EPA Specific Comment No. 23: Agree. The times to reach PPGs throughout the plume without consideration of the WMA were estimated in the early versions of the FS. These times will be included per the comment. No additional calculations are needed.

***EPA Specific Comment No. 24 - Page 3-7, Component 2:** Regarding the second sentence of the fourth paragraph, the text states that remedial goals for sediment and soil will be determined during remedial design; however, that is not accurate. Instead, a new third Component – “Monitoring” should be added. The Monitoring component should address the remedial measures (monitoring) to be taken along the saline shoreline to meet the groundwater RAO to prevent migration of groundwater contamination into sediments/surface water in Allen Harbor and Narragansett Bay. The basis (either ARAR or TBCs) for the

Performance Standards for the monitoring need to be included in the FS. When paired with Soil Alternative S-3A the performance standards would be based both risk-based standards and soil leachability standards. When this groundwater alternative is paired with Soil Alternative S-5 the performance standards would only be based on risk-based standards (since all soil exceeding leachability standards would be removed under Soil Alternative S-5).

Navy Response to EPA Specific Comment No. 24: *Regarding the second sentence, the remedial goals will be developed in the RD. A new component will not be added, but the existing text will be revised to include additional monitoring details. The component title will also be revised to "Monitored Natural Attenuation and Monitoring." A reference to Appendix E will be added because trigger levels are discussed there. The ARAR tables will be revised as appropriate to identify any criteria to be used for developing trigger values. Per Specific Comment No. 21, any difference when paired with Alternative S-5 will be noted.*

The remedial goals protective of ecological receptors in porewater, surface water, and sediment will be determined during the remedial design. Please include porewater.

Response: *Agree. Porewater will be added to the description.*

EPA Follow-up Comment to Specific Comment No. 24: The remedial goals are set by the ROD (so also need to be identified in the FS), the RD's role is to identify how the remedial goals will be met. Navy has indicated that the remedial goals for surface water will be included as a table in the body of the document and we're requesting citations in the ARAR tables in Specific Comment No. 45.

Navy Response to EPA Follow-up Comment to Specific Comment No. 24: *Agree. The remedial goals and the citations will be added. Please see attached table. Also, please note the footnotes to the table. Some goals are labeled as "contingency goals" because of the protocol established in Appendix E of the FSA. Final remedial goals for the protection of ecological receptors exposed to pore water would be developed as necessary based on the SLERA/BERA conducted (as necessary) per the protocol established in Appendix E.*

***EPA Specific Comment No. 25 - Page 3-7, Component 3:** The Navy needs to acquire legally enforceable environmental LUCs on property it no longer owns. It cannot rely on non-CERCLA land use controls, since these potentially could be changed at some future time and the Navy would have no basis to prevent the change (unless a CERCLA restriction is in place). The Navy also needs to be able to take an enforcement action if there are violations of LUCs outside of current Navy property.

Navy Response to EPA Specific Comment No. 25: *Comment noted.*

EPA Follow-up Comment to Specific Comment No. 25: Please see EPA Follow-up Comment to Specific Comment No. 19.

Navy Response to EPA Follow-up Comment to Specific Comment No. 25: *Please see Navy Response to Follow-up Comment to Specific Comment No. 19.*

***EPA Specific Comment No. 26 - Page 3-8, Component 3:** Regarding the first paragraph, the Navy needs to discuss how it will establish enforceable LUCs on property it currently owns up to the point the property is eventually transferred.

Navy Response to EPA Specific Comment No. 26: *The Navy and Rhode Island Economic Development Corporation executed a Lease in Furtherance of Conveyance (LIFOC – Lease N62472-98-RP-0035) in January 1998 for a term of 50 years. Paragraph 8 of that lease requires Government*

approval prior to any alteration or addition. Any "work" (addition/alteration) in any "Operable Unit" requires written approval by the Government's Remedial Project Manager. Paragraph 8.2 also requires 60 days' notice to EPA and RIDEM prior to any alteration or addition.

When paired with Soil Alternative S-3A the LUCs would be permanent within the compliance boundary and temporary under groundwater cleanup standards are achieved outside of the compliance boundary. When paired with Soil Alternative S-5, the LUCs are temporary throughout the Site until federal drinking water standards are achieved throughout the Site (except in any saline areas).

Response: Agree. The Navy does not necessarily agree with need to emphasize "permanent" versus "temporary" LUCs. However, per the BCT discussions of June 11, 2013, the text of the FSA and PP will be amended to clearly state that groundwater LUCs are permanent within the WMA and temporary outside the WMA. A discussion will also be added regarding the "pairing" of the soil/groundwater alternatives.

The fifth paragraph needs to be split off and included under a new "Component 5: 5-Year Review."

Response: Disagree. See response to Comment No. 17.

EPA Follow-up Comment to Specific Comment No. 26: The terms of the lease cited by the Navy need to be incorporated into the remedial action in order that it be enforceable under CERCLA and the FFA. EPA believes this would be more cost effective than creating a LUCIP for OU9.

Navy Response to EPA Follow-up Comment to Specific Comment No. 26: The terms of the lease are perhaps more restrictive than that which would be necessary for the remedial action. In addition, a revised LUCIP will be required for the period after transfer and will be developed prior to transfer and can readily acknowledge the terms and provisions of the lease agreement to cover the time prior to transfer.

***EPA Specific Comment No. 27 - Page 3-8, Contingency Remedy:** The concept of a contingency remedy is not discussed in the Proposed Plan. It also is not figured into the NCP 9 criteria analysis for Groundwater Alternative G-3B. Therefore, if the selected remedy fails this contingency remedy will need to go through the FS, PP, and ROD Amendment process.

Navy Response to EPA Specific Comment No. 27: Comment acknowledged.

***EPA Specific Comment No. 28 - Page 3-9:** Please see the following comments on Appendix E. Ecological trigger values are to be scientifically defensible for the porewater not surface water as we comment below.

Navy Response to EPA Specific Comment No. 28: Comment acknowledged. Please see responses to comments regarding Appendix E at end on this document.

***EPA Specific Comment No. 29 - Page 3-10, § 3.2.2:** Regarding the third paragraph, LUCs will be protective as long as enforceable CERCLA restrictions can be established on both Navy and non-Navy property within the groundwater restriction area.

Navy Response to EPA Specific Comment No. 29: Comment acknowledged. See response to Comment No. 19 and 26.

***EPA Specific Comment No. 30 - Page 3-12, Implementability:** Regarding the second paragraph, the Navy needs to identify how it will establish LUCs on property it no longer owns (for example, if the Navy needs to purchase an easement the cost of the easement needs to be included in the projected cost for the alternative).

Navy Response to EPA Specific Comment No. 30: See response to Comment No. 19.

EPA Follow-up Comment to Specific Comment No. 30: See EPA Follow-up Comment to Specific Comment No. 19.

Navy Response to EPA Follow-up Comment to Specific Comment No. 30: See Navy Response to EPA Follow-up Comment No. 19.

***EPA Specific Comment No. 31 - Page 3-5, Cost:** See previous comment concerning including the cost of any potential LUC easement that may be required on property the Navy no longer owns in the cost of the alternative.

Navy Response to EPA Specific Comment No. 31: See response to Specific Comment No. 20.

***EPA Specific Comment No. 32 - Tables 3-1, 3-2, and 3-3:** Change the title of Soil Alternative S-3A to "Excavation, Off-site Disposal, Soil Cover, Monitoring, LUCs, and Five-Year Review."

Navy Response to EPA Specific Comment No. 32: Partially Agree. See response to Specific Comment No. 12.

***EPA Specific Comment No. 33 - Table 3-1:** For all of the Action to be Taken text, in the last sentence after "excavation," insert "maintenance of soil covers,"

Navy Response to EPA Specific Comment No. 33: Partially Agree. The suggested text will be revised to: "maintenance of cover,"

***EPA Specific Comment No. 34 - Table 3-1, p. 3:** Modify the Remediation Regulation citation as follows:

State of Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	DEM-DSR-01-93, Section 8.02(A) & Table 1	Applicable	These regulations set remediation standards to prevent direct contact with contaminated soil resulting from the unpermitted release of hazardous material in Rhode Island.	<p>In the NCA area excavation of the top 2 feet of contaminated soil exceeding industrial direct exposure criteria, maintenance of a clean 2 foot cover, LUCs to protect the cover and prevent exposure to subsurface soils, and monitoring will meet Industrial exposure standards. LUCs to prevent residential use in the NCA area will address remaining areas that exceed unrestricted use criteria for direct contact.</p> <p>In the Marina area excavation of the top 2 feet of contaminated soil exceeding criteria for recreational use, maintenance of a clean 2 foot cover, LUCs to protect the cover and prevent exposure to subsurface soils under the cover and marina buildings, and monitoring will achieve standards to permit continued</p>
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				recreational use of the Marina area.
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Navy Response to EPA Specific Comment No. 34: Agree. The table will be modified per the suggested text.

***EPA Specific Comment No. 35 - Table 3-1, p. 4:** Remove the last two entries.

Navy Response to EPA Specific Comment No. 35: Agree. The table will be revised per the comment.

***EPA Specific Comment No. 36 - Table 3-2, p. 1:** For the Federal Endangered Species Act, in the Action to be Taken text need to add the federally-listed Atlantic Sturgeon.

Navy Response to EPA Specific Comment No. 36: Agree. The table will be revised per the comment.

***EPA Specific Comment No. 37 - Table 3-2, p. 2:** Navy can remove the State ESA because the State habitat for the two sea turtles is off-shore of Narragansett Bay and the Least Tern is not a listed species.

Navy Response to EPA Specific Comment No. 37: Agree. The table will be revised per the comment.

***EPA Specific Comment No. 38 - Table 3-3, p. 2:** Modify the citation for the RI Remediation Regulations as follows:

State of Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	DEM-DSR-01-93, Section 8.02(B) and Table 2	Applicable	These regulations set remediation standards to prevent leaching of soil contaminants into groundwater and sediment/surface water resulting from the unpermitted release of hazardous material in Rhode Island.	These leachability criteria will be used to develop monitoring standards for groundwater, and sediment/porewater/surface water at the waste management area compliance boundary.
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Navy Response to EPA Specific Comment No. 38: Agree. The table will be revised per the comment.

***EPA Specific Comment No. 39 - Table 3-4, p. 2:** For the two Safe Drinking Water Act citations, in the Action to be Taken text change the second sentence to: "If this alternative is paired the Soil Alternative S-3A then these standards will be used to establish PRGs for groundwater outside of the WMA compliance boundary (and used as Action-specific Performance Standards for inside of the compliance boundary). If this alternative is paired with Soil Alternative S-5 these standards will be used to develop PRGs for the entire Site, except where the groundwater is saline."

Navy Response to EPA Specific Comment No. 39: Generally Agree. The table will be revised per the comment; however, "the Soil Alternative S-3A" will be replaced with "a soil alternative that manages waste in place."

***EPA Specific Comment No. 40 - Table 3-4, p. 3:** For the Remediation Regulations, Action to be Taken text change the third sentence to: "If this alternative is paired the Soil Alternative S-3A then these standards will be used to establish PRGs for groundwater outside of the WMA compliance boundary (and used as Action-specific Performance Standards for inside of the compliance boundary). If this alternative

is paired with Soil Alternative S-5, these standards will be used to develop PRGs for the entire Site, except where the groundwater is saline.”

Navy Response to EPA Specific Comment No. 40: *Generally Agree. The table will be revised per the comment; however, “the Soil Alternative S-3A” will be replaced with “a soil alternative that manages waste in place.”*

***EPA Specific Comment No. 41 - Table 3-5:** For the Federal Endangered Species Act, in the Action to be Taken text need to add the federally-listed Atlantic Sturgeon.

Navy Response to EPA Specific Comment No. 41: *Agree. The table will be revised per the comment.*

Add to the federal citations:

Floodplain Management and Protection of Wetlands	44 Code of Federal Regulations (CFR) 9	Relevant and appropriate	FEMA regulations that set forth the policy, procedure and responsibilities to implement and enforce Executive Order 11988, Floodplain Management, and Executive Order 11990, Protection of Wetlands.	Remedial alternatives (such as installation/operation of monitoring/treatment wells) conducted within the 100-year floodplain of Allen Harbor/Narragansett Bay or within federal jurisdictional wetlands will be implemented in compliance with these standards. The Navy will solicit public comment as part of the proposed plan on the measures taken through the remedial action to protect floodplain and wetland resources.
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Response: *Disagree. The ARAR was excluded from Alternative G-3A, so there is no reason to include it in this case.*

The State ARARs are applicable for CRM. Please change the status to applicable.

Response: *Disagree. The ARAR was identified as relevant and appropriate for Alternative G-3A, so there is no reason to change it in this case.*

EPA Follow-up Comment to Specific Comment No. 41: The federal floodplain/wetland standards should be included in the location-specific tables for all alternatives for any media that take place in the 100-year floodplain or federal jurisdictional wetlands. Although for the groundwater alternative floodplain protection is a fairly de minimus issue, EPA identifies the floodplain standards as ARARs for any remedial work in the coastal floodplain (it does not depend on the media being remediated). For example, the installation or maintenance of wells within the floodplain would have to be conducted so as to not cause in the release in the event a flood event occurred during the remedial action or if the Navy had to do any site work to build up an access road to a well site - it would have to take into account potential floodplain alterations that could occur (such as causing increased flooding somewhere else on the site where it could cause damage to the soil cover). Navy has indicated that this ARAR will be included in the table for alternative 3B.

The State ARARs for coastal zone management were applicable in the FS for alternative 3B, please make the change in the ARAR table for alternative 3B.

Navy Response to EPA Follow-up Comment to Specific Comment No. 41: Agree to both follow-up comments. Table 3-5 will be revised per the original comment (two parts).

***EPA Specific Comment No. 42 - Table 3-5, p. 2:** Navy can remove the State Endangered Species Act (ESA) because the State habitat for the two sea turtles is off-shore of Narragansett Bay and the Least Tern is not a listed species.

Navy Response to EPA Specific Comment No. 42: Agree. The table will be revised per the comment.

***EPA Specific Comment No. 43 - Table 3-6, p. 1:** For the MNA Guidance "Action to be Taken" text state how long MNA (after treatment) is expected to take if this groundwater alternative is paired with Soil Alternative S-3A (compliance outside compliance boundary of an WMA) versus with Soil Alternative S-5 (need to achieve groundwater cleanup standards throughout the Site).

Navy Response to EPA Specific Comment No. 43: Disagree. This information was not included in the ARAR tables previously presented in the FS and does not need to be included in the table in this report. Per other comments on the FSA, the duration will be added elsewhere in the text.

EPA Follow-up Comment to Specific Comment No. 43: EPA requested that the time for MNA to achieve cleanups standards be included for all of the alternatives, whether they are described in the FS or the FS addendum. The only way to evaluate and compare alternates that rely on MNA as part of the NCP analysis (including for the ARARs criterion) is to identify how long each will take for the alternative relying on MNA to achieve groundwater cleanup standards. Navy has indicated that the timeframes will be noted in the text.

Navy Response to EPA Follow-up Comment to Specific Comment No. 43: Comment acknowledged.

***EPA Specific Comment No. 44 - Table 3-6, p. 1&2:** For the two Safe Drinking Water Act citations, in the Action to be Taken text change the second sentence to: "If this alternative is paired the Soil Alternative S-3A then these standards will be used as Performance Standards for monitoring inside the compliance boundary for the waste management area. If this alternative is paired with Soil Alternative S-5 these standards will be used to monitor groundwater until treatment and MNA have achieved groundwater cleanup standards throughout the Site, except where the groundwater is saline."

Navy Response to EPA Specific Comment No. 44: Partially agree. The suggested text will be added, but as in the response to Comment No. 39, "the Soil Alternative S-3A" will be replaced with "a soil alternative that manages waste in place."

Table 3-6, p. 2: EPA Groundwater Guidance "Action to be Taken" add at the beginning of the first sentence: "If this groundwater alternative is paired with Soil Alternative S-3A, groundwater..." and add a new last sentence: "If this alternative is paired with Soil Alternative S-5, then this groundwater alternative will achieve groundwater cleanup standards throughout the entire Site, except where the groundwater is saline."

Response: Partially agree. The suggested text will be added, but as in the response to Specific Comment No. 39, "the Soil Alternative S-3A" will be replaced with "a soil alternative that manages waste in place."

***EPA Specific Comment No. 45 - Table 3-6, p. 3:** To the federal citations add citations to whichever federal guidances are used to develop sediment monitoring standards along the shorelines of Allen Harbor and Narragansett Bay, both when this groundwater alternative is paired with Soil Alternatives S-3A and 5 (with a WMA and without).

Navy Response to EPA Specific Comment No. 45: *Agree. The guidance used in Appendix E will be added to the table. Note that the screening levels used in Appendix E are for surface water, not sediment. No additional guidance was added for sediment monitoring.*

EPA Follow-up Comment to Specific Comment No. 45: To assess potential migration of contamination to the harbor surface water will be sampled. The Navy's response does indicate that the surface water standards are being used to develop monitoring standards. The citation for the surface water standards would then be noted in the ARAR table.

Navy Response to EPA Follow-up Comment to Specific Comment No. 45: *Please see response to EPA Follow-up Comment to Specific Comment No. 24. Note that Table 3-6 includes NRWQC. Per discussions with the EPA, the Navy will either develop screening levels for groundwater at the Allen Harbor shoreline that are protective of receptors in Allen Harbor or will sample pore water/surface water directly and compare results to criteria presented for pore water/surface water in the **attached table**. Please see the Appendix E protocol.*

***EPA Specific Comment No. 46 - Figure 3-1:** Title should be "Excavation and Cover..." (unless the cover area is greater because of subsurface contamination below 2 feet that poses a commercial/industrial risk). The figure should also show the extent of LUCs required to prevent residential use in the NCA area.

Navy Response to EPA Specific Comment No.46: *Partially agree. The title will be revised to use the name of the alternative per the response to Comment No. 12. The extent of LUCs is the same as that specified in the FS and is not being duplicated in this report.*

EPA Follow-up Comment to Specific Comment Nos. 46 and 47: The extent of LUCs required for the alternatives being presented in the Addendum should be shown on the addendum figures, or the FS addendum could reference and explain the areas covered by the different LUCs. For example: the boundary of the areas subject to LUCs for cap protection, the boundary of the areas subject to LUCs for cover protection (IF DIFFERENT), the area subject to LUCs for digging restrictions, the areas subject to a residential use restriction and the groundwater extraction LUC area. Soil LUCs areas are different for each of the alternatives and the FSA needs to be specific enough to show the public the extent of the different areas subject to the different LUCs. Residential LUCs cannot be put on areas that are not above risk levels. Restrictions on cap or cover disturbance cannot be put on areas that do not have caps/covers.

As another example: the FSA could explain that on Figure 4-1 of the FS, the residential land use restriction & soil management plan LUC will correspond to the entire area shaded in yellow, pink, green striped shaded areas. The cover disturbance LUC also corresponds to the individual areas shaded in yellow, pink & green striped area while the cap disturbance LUC only applies to the green shaded areas. As an alternative the FSA could revise the legend to include which LUCs correspond to which areas and include these figures for each alternative in the FSA since this level of LUC location description was not included in the FS.

Navy Response to EPA Follow-up Comment to Specific Comment No. 46: *The current narrative regarding the different LUCs already addresses these follow-up comments. The text in the FSA is*

essentially that same text that was used in the FS, which was satisfactory at that time. Drawings showing specific boundaries for each LUC will be prepared as part of the LUC RD.

***EPA Specific Comment No. 47 - Figure 3-3:** Show the proposed LUC boundary.

Navy Response to EPA Specific Comment No. 47: *Disagree. The extent of LUCs is the same as that specified in the FS and is not being duplicated here in this report.*

(Unrelated to the comment, in the inset on the subject figure, "INJ16-67D" will be corrected to "MW16-67D".)

EPA Follow-up Comment to Specific Comment No. 47: Please see EPA Follow-up Comment to Specific Comment No. 46.

Navy Response to EPA Follow-up Comment to Specific Comment No. 47: *Please see Navy Response to EPA Follow-Up Comment to Specific Comment No. 46.*

***EPA Specific Comment No. 48 - Page 4-1, § 4-1:** The WMA is not a remedial component of this alternative (it is an NCP interpretation of where groundwater needs to achieve cleanup standards when waste is managed in place), the remedial component is contaminated soil being covered/managed in place. This section needs to be revised to analyze the cover under the NCP criteria.

If the WMA is discussed in this section, it needs to be discussed for all of the soil alternatives where waste is managed in place. If Soil alternatives S-2, S-3, S-4, and S-6 are to be carried forward through the FS Addendum and Proposed Plan, then the WMA concept applies to all of them. As previously commented on, since some soil alternatives have waste managed in place and therefore will have groundwater compliance boundary's and some won't, the groundwater alternatives need to present how long they will take to achieve their cleanup standards under both circumstances (achieve PRGs only outside of the compliance boundary or throughout the entire Site).

Navy Response to EPA Specific Comment No. 48: *Agree. This section will be revised to indicate that the WMA is a feature of most soil alternatives (all except S-1 and S-5). However, the discussion will focus on the groundwater alternatives because the WMA affects the groundwater alternatives. Per previous comments (for example Comment No. 21), the discussion in this section will indicate the effects of the presence and absence of the WMA on the groundwater alternatives. The covers have already been evaluated in the analysis of the alternatives in the FS.*

***EPA Specific Comment No. 49 - Page 4-3, § 4.2.1:** Also describe as a component the LUCs will be required to maintain the cover and prevent disturbance of the underlying contaminated soil.

Navy Response to EPA Specific Comment No. 49: *Agree. The subject information will be included in the text.*

***EPA Specific Comment No. 50 - Page 4-4, § 4.2.2:** The detailed NCP criteria analysis also needs to discuss the role of maintenance of the cover and LUCs for meeting long-term protectiveness and the other criteria.

Navy Response to EPA Specific Comment No. 50: *Agree. The subject information will be added to the text.*

***EPA Specific Comment No. 51 - Page 5-1, § 5.1:** Incorporate the above comments and also the comments EPA has made to the Proposed Plan. In particular, note that for the soil alternatives that leave waste in place and that will therefore have a WMA, there is no need to address leachability exceedances except for monitoring at the WMA compliance boundary. The excavation alternatives that only remove soil to two feet and then backfill therefore have cover requirements (so long-term maintenance and monitoring of soil covers need to be added to each alternative).

Navy Response to EPA Specific Comment No. 51: Agree that this section will be revised to incorporate the comments made in other sections and to the Proposed Plan. Note that a new cover is not a significant component in Alternative S-3A, although the requirements for maintenance of existing cover will be noted.

***EPA Specific Comment No. 52 - Page 5-2, 2nd Paragraph:** Replace the paragraph text with "Alternative S-1 will not be protective of human health and the environment."

Navy Response to EPA Specific Comment No. 52: Partially agree. The subject paragraph is identical to that which was used in the FS. The following will be added, "Because the existing LUCs are not environmental LUCs, they can be readily lifted. Therefore, S-1 would not be fully protective."

***EPA Specific Comment No. 53 - Page 5-3, 1st Paragraph:** Replace the paragraph text with "Alternative S-1 will no long-term effectiveness or permanence because to CERCLA action will be taken to address soil contamination."

Navy Response to EPA Specific Comment No. 53: Disagree. The subject paragraph is identical to that which was used in the FS.

***EPA Specific Comment No. 54 - Page 5-5, § 5.3:** Incorporate all previous comments to this Addendum and the Proposed Plan. Also that analysis of the alternatives needs to identify how long each alternative will take to achieve groundwater cleanup standards when paired with a Soil Alternative with a WMA (groundwater compliance outside of the WMA compliance boundary) and when all contaminated soil is removed (groundwater compliance throughout the Site).

Navy Response to EPA Specific Comment No. 54: Agree that this section will be revised to incorporate the comments made in other sections to the Proposed Plan. The time for the groundwater alternatives to meet PRGs when there is no WMA will be included.

***EPA Specific Comment No. 55 - Table 5-1:** Make changes based on previous comments. In particular, Alternative S-1 does not meet the Protectiveness criterion. Also, the excavation alternatives that only remove soil to 2 feet and then backfill therefore have cover requirements (so long-term maintenance and monitoring of soil covers need to be added to each alternative).

Navy Response to EPA Specific Comment No. 55: Agree. Table 5-1 will be revised as needed so that it will be consistent with revisions made to the text.

***EPA Specific Comment No. 56 - Table 5-2:** Make changes based on previous comments. In particular, Alternatives G-1 does not meet the Protectiveness or ARARs criteria. Also the analysis of the other groundwater alternatives need to include two options – paired with the alternatives with a WMA and paired with S-5 where there is no WMA and groundwater cleanup standards must be achieved throughout the Site.

Navy Response to EPA Specific Comment No. 56: Agree. Table 5-2 will be revised as needed so that it will be consistent with revisions made to the text.

GENERAL COMMENTS ON APPENDIX E

***Appendix E, EPA General Comment No. 1:** The primary ecological receptor populations include infauna within sediment exposed to porewater, potentially contaminated with COCs. As the pathway for exposure in surface water would be a release from upwelling groundwater COCs, the nearly instantaneous dilution of groundwater makes this exposure pathway (i.e. surface water pathway) likely to be insignificant. The potential for risk from pelagic (water column) organisms or epifauna (at the surface of the sediments) to surface water is low. A discussion of the primary exposure pathways should be provided in the document and justification for elimination of surface water of Allen Harbor as an exposure media (due to near instantaneous dilution at the point of discharge of groundwater) should be included. Subsequent discussion of ecological receptors should focus on those potentially exposed to COCs in porewater and sediments in Allen Harbor from the upwelling of contaminated groundwater.

Navy Response to Appendix E, EPA General Comment No. 1: The Navy agrees the primary ecological receptors of concern are infauna within sediment exposed to porewater, potentially contaminated with VOCs. The Navy also agrees that VOC concentrations (exceeding screening levels for ecological receptors or risk-based concentrations for recreational-type, human exposures) are not expected in surface water because of factors such as dilution. The narrative will be updated accordingly.

***Appendix E, EPA General Comment No. 2:** The Navy developed an attenuation factor for the trigger values based on TCE concentrations measured in on-site groundwater wells (namely the MW16-05 cluster) compared to surface water samples collected in Allen Harbor. However, as indicated in General Comment above, there is near instantaneous dilution at the point of discharge of groundwater into the water column in Allen Harbor, and surface water should not be considered as the end point for comparison to groundwater concentrations at this site. Additionally, a comparison of TCE concentrations measured in on-shore groundwater wells to off-shore piezometer groundwater samples indicates that there is very little attenuation within approximately 40-250 feet from the shoreline. The following table summarizes these data:

Date	2004	2007	2010	Groundwater TCE concentration relatively constant over time periods available?
On-Shore Well MW-16-05 (screen interval):				
Shallow (S)	1 U	0.1 UJ	Not analyzed	Yes
Intermediate (I)	470	650/700	540	Yes
Deep (D)	1,100	1,200	1,200	Yes
Bedrock (R)	860	1,200	Not analyzed	Yes
Allen Harbor Piezometers TW16-AH-:				
05	Not installed	230 J (3-5 feet) 1,110 J (8-10 feet)	Not analyzed	NA (only one event)
06	Not installed	93 J (3-5 feet) 460 (8-10 feet)	Not analyzed	NA (only one event)

07	Not installed	760 J (3-5 feet) 730 J (8-10 feet)	Not analyzed	NA (only one event)
08	Not installed	750 J (3-5 feet) 570 J (8-10 feet)	Not analyzed	NA (only one event)
13	Not installed	Not installed	0.3 U (0-1 feet) 94 (9-10 feet)	NA (only one event)
14	Not installed	Not installed	310 J (0-1 feet)	NA (only one event)
Result	--	Minimal attenuation from on-shore to off-shore groundwater	Minimal attenuation from on-shore to off-shore groundwater	--

A further comparison of TCE concentrations measured in off-shore piezometers to sediment collected in Allen Harbor indicates that total chlorinated VOCs (primarily TCE) are present in the several sediment locations at various sample depth intervals:

- Sediment AH-47 - 886 µg/kg at 0.5 - 1.0 feet (sampled in 2004)
- Sediment SD16-AH-01 - 26.5 µg/kg at 5-6 feet; non-detect at 0-0.5 foot (both sampled in 2007)
- Sediment SD16-AH-03 - 8.5 µg/kg at 3-4 feet (sampled in 2007)
- Sediment SD16-AH-03 - 11 µg/kg at 8-9 feet (sampled in 2007)

Based on these data, ecological receptors may be present where TCE in groundwater discharges into porewater and sediment in Allen Harbor. While it is noted that the 2007 piezometers were screened in Allen Harbor at intervals deeper than where most ecological receptors would be found, in 2010 the data for piezometers screened at 0-1 feet (TW16-AH-13 and TW16-AH-14) indicated the presence of COCs in the shallow depth interval where ecological receptors are present.

In summary, there is little attenuation between on-shore groundwater to off-shore piezometers. Attenuation between piezometers and sediment is minimal depending on depth and date. As such, there is no consistent data set to support the use of an attenuation factor between on-shore groundwater and either off-shore piezometers or sediment. As such, an attenuation factor should not be applied to ecological risk screening levels because the on-shore groundwater concentrations are not consistently or substantially lower in off-shore porewater and sediment samples. Accordingly, the following specific comments need to be addressed in the revision of the trigger value decision process.

Navy Response to Appendix E, EPA General Comment No. 2: As documented in the "Notes for the 10 April 2013 BCT Teleconference, Former NCBC Davisville, Rhode Island", the determination of an appropriate attenuation factor has been discussed at length by the BCT. The BCT's conclusion was that the text in Appendix E would be revised to state that an attenuation factor would be developed as part of the remedial design for the long-term monitoring plan for Site 16 or that the COCs (i.e., the VOCs) would be measured directly in the pore water.

With regard to the data presented in the reviewer's comment, please note the following:

- As displayed on Figure 4-31 and detailed in the data tables presented in Attachment A, sediment samples were collected at over 20 locations in Allen Harbor in 2004. Chlorinated volatile organic chemicals (CVOCs) were detected at one sediment sampling location only (Location AH-47); the predominant CVOC at that location was *cis*-1,2-dichloroethene (880 µg/kg). The trichloroethene (TCE) concentration at that location was 2 µg/kg. This 2004 data set is the most comprehensive

dataset available for the VOCs in the shallow depth sediments (1' or less in depth) in Allen Harbor. This dataset does not suggest that significant concentrations of VOCs are present in the shallow-depth sediments in Allen Harbor.

- *The TCE detections in the sediments at the AH-01 and AH-03 locations are from samples collected at depths greater than 3 feet below the surface water/sediment interface.*
- *Trichloroethene was not detected in the 0-1 foot piezometer data collected at location TW16-AH-13 (referenced in the reviewer's comment).*
- *Based on the groundwater monitoring data available for location MW16-05, trichloroethene concentrations in the groundwater immediately upgradient of Allen Harbor have never exceeded the ecological screening level for this compound.*

APPENDIX E SPECIFIC COMMENTS

***Appendix E, EPA Specific Comment No. 1:** Page 1, Paragraph 5 and the following bullets. As discussed in General Comments above, the evidence for an attenuation factor of 500:1 or 100:1 is not applicable, as it considered the change in TCE concentrations between on-shore groundwater to off-shore surface water; off-shore surface water is not the ecological pathway end point, and there is no consistent attenuation between on-shore groundwater and off-shore piezometers and sediments. The on-shore groundwater data indicate potential COC concentrations in groundwater near the harbor exceeding the proposed ecological screening levels. The primary receptor populations include infauna within sediment exposed to porewater (e.g. meiofauna, shellfish, worms). As discussed above, exposure of pelagic organisms (plankton, invertebrates and fish) in open water of the harbor should be eliminated as a major ecological exposure pathway. The exposure points are therefore to organisms exposed to sediments and porewater in Allen Harbor resulting from the apparent upwelling of contaminated groundwater.

The decision to evaluate the installation of the bio-barrier should be triggered if the screening values (unadjusted) are exceeded in sentinel wells along the shoreline. If these values are exceeded, then an investigation should be performed to assess potential exceedances in porewater of Allen Harbor sediments. This investigation may be accomplished by either collection of sediment pore water samples, or shallow groundwater from piezometers (0 to 1 ft), representing porewater concentrations. Exceedances of unadjusted ecological screening values (presented in Table 1 of the Navy document) would indicate exposures of receptors above acceptable risk levels, and require the discussion of next steps to possibly include the implementation of the contingency remedy.

Navy Response to Appendix E, EPA Specific Comment No. 1: Please see response to the preceding Appendix E general comments. Also, exceedances of the referenced ecological screening values would not necessarily lead the BCT to conclude that the exposures incurred by the ecological receptors are unacceptable. Rather, per the typical CERLCA protocol for ecological risk assessment, exceedances of ecological screening levels would "trigger" a formal Screening Level Ecological Risk Assessment (SLERA). The outcome of that assessment may or may not trigger a full, Baseline Ecological Risk Assessment (BERA). If the BERA clearly predicts unacceptable ecological risk, the BCT would determine if a bio-barrier or other remedial action is required to address unacceptable risk.

***Appendix E, EPA Specific Comment No. 2:** Page 2, First Bullet (Step 1). It is recommended that Step 1 remains the same, with the trigger levels used, but without "adjusting" trigger levels by any attenuation factor.

Navy Response to Appendix E, EPA Specific Comment No. 2: Please see response to preceding Appendix E General Comment No. 2.

***Appendix E, EPA Specific Comment No. 3:** Page 2, Second Bullet (Step 2). This bullet should include sampling of sediment porewater (or calculation of porewater concentrations from sediment measurements). Alternatively, sampling of shallow piezometers (0-1 ft) may be used to represent sediment porewater concentrations to be compared to trigger values. If data reviewed in Step 2 show exceedances of human health or ecological screening values, then the equivalent of a SLERA screening has already been completed. The second bullet under Step 3 ("Yes") should become the second bullet under Step 2.

Navy Response to Appendix E, EPA Specific Comment No. 3: Please note response to EPA General Comment No. 2.

With regards to the recommendation to "calculate porewater concentrations from sediment measurements", CVOCs were detected in only one of the 0-1 foot depth sediment samples collected in 2004. Based on this approach, one would not predict significant CVOC concentrations in the porewater at the 0-1 foot depth interval.

The specifications and progression of the steps presented on page 2 and 3 will change pending whether or not an attenuation factor is developed as part of the remedial design for long-term monitoring plan for Site 16 or if the COCs (i.e., the VOCs) will be measured directly in the pore water. Regardless of the approach, the Navy agrees that the primary ecological receptors of concern are infauna within sediment exposed to porewater, potentially contaminated with VOCs.

***Appendix E, EPA Specific Comment No. 4:** Page 2, Third Bullet (Step 3). Remove Step 3.

Navy Response to Appendix E, EPA Specific Comment No. 4: Please see Navy response to Appendix E, EPA Specific Comment No. 3. Please note that BERAs typically follow SLERAs in the CERCLA ecological risk assessment process if the SLERA predicts unacceptable risks for the ecological receptors. This step should not be removed from the decision making process.

***Appendix E, EPA Specific Comment No. 5:** Table 1. Please footnote the Human Health and Ecological Screening Levels to direct the reader to the source of these values (Attachment B).

Navy Response to Appendix E, EPA Specific Comment No. 5: Agree.

***Appendix E, EPA Specific Comment No. 6:** Figure 1. Modify Figure 1 to correspond to the changes in Step 2 and removal of Step 3 recommended above.

Navy Response to Appendix E, EPA Specific Comment No. 6: Please see responses to Appendix E, EPA comments provided above.

***Appendix E, EPA Specific Comment No. 7:** Attachment A, Figure 4-31 - Provide depth interval of collected sediment samples.

Navy Response to Appendix E, EPA Specific Comment No. 7: The earliest samples presented on the figure (vintage 2001: SED16-01, SED16-02, and OPS16-01) are surficial (within 1 foot below the sediment surface). The majority of the 2004 sediment samples (which have an "AH" at the beginning of

the sample identifier) are also surficial sediment samples collected by EA Engineering, Science, and Technology (EA) in support of the Phase II Screening Level Ecological Risk Assessment of IR Program Site 16 (EA, November 2004). EA also collected samples for VOCs from one core (CORE 1); samples were labeled CORE1-TOP and CORE1-BOT. Shallow sub-sediment samples were also collected by Tetra Tech for VOC analysis in 2007 at two locations indicated on Figure 4-31 (SD16-AH-01 and SD16-AH-03); the sample depths are indicated in parentheses on the "tags" presenting the relevant data. This information will be added to Figure 4-31.

***Appendix E, EPA Specific Comment No. 8:** Attachment B - Support Documentation for Ecological Screening Levels. This document was prepared by Tetra Tech for the Navy in May 2010. This document uses standard methods and literature for the evaluation of ecological screening criteria for use at NCBC Davisville. The goal of the document was to propose acceptable screening values in marine water. The document recommends using USEPA Region 3 BTAG ESVs as conservative values based on a review of available literature. They remain conservative values to use as ESLs. The Region 3 ESVs have not been updated since July 2006 so no new values are available, and the selected ESVs do not require updating.

Navy Response to Appendix E, Specific Comment No. 8: *No response required.*

Please see Response to EPA Specific Comment No. 45.

TABLE XX

REMEDIAL GOALS/CONTINGENT REMEDIAL GOALS FOR MARINE SURFACE WATER/PORE WATER

Parameter	National WQC Chronic Criteria Ecological (ug/L) (For Pore Water) (Contingency Only, See Footnote)	National WQC Human Health Consumption of Biota (ug/L) (For Surface Water)	Appendix E Screening Level Ecological (ug/L) (For Pore Water) (Contingency Only, See Footnote)	Appendix E Screening Level Recreational Human Exposure (ug/L) (For Surface Water)
Trichloroethene	NA	30	1,940	35
Cis-1,2-DCE	NA	NA	680	1,160
Trans-1,2-DCE	NA	10,000	680	11,600
Vinyl chloride	NA	2.4	930	2
1,1-DCE	NA	7,100	2,240	27,600
1,2-DCA	NA	37	1,130	59.7
Benzene	NA	51	110	38.5
Tetrachloroethene	NA	3.3	45	391
Naphthalene	NA	NA	1.4	3,250

Notes:

NA Not available.

There are no eco WQC for our VOCs/naphthalene for marine life.

The Appendix E Ecological Screening Levels are best described as "Contingency Remedial Goals" only at this time. Per the methodology presented in Appendix E, exceedances of the Appendix E screening levels would trigger a series of sampling/risk analyses events (including possibly a BERA) that might result in the conclusion that unacceptable ecological risks exist. Then, remedial goals for pore water would be determined. This approach is the standard ecological risk assessment protocol under CERCLA.

**Navy Response to Rhode Island Department of Environmental Management
Comments and Follow-up Comments on Draft Proposed Plan for
Installation Program Site 16
For Former Naval Construction Battalion Center,
North Kingston, Rhode Island
Report Dated March 2013
(RIDEM Comment Correspondence Dated March 26, 2013)
(RIDEM Follow-up Comment Correspondence Dated July 10, 2013)**

***RIDEM Comment No. 1 - Page 4, Column 1, Bottom Paragraph:** The Quonset Davisville Navy Yacht Club is now known as the Allen Harbor Boating Association¹, please revise. In addition, please remove the phrase "restricted recreational" and simply refer to the marina portion of this site as "recreational". Though not all inclusive, the site is not "restricted recreational" for the following reasons – 1) There are no barriers, physical or otherwise, to prevent public access to the site, 2) The site is owned by a governmental agency (Navy), will be transferred to a quasi-governmental agency (QDC) who will lease it to a non-profit entity (Allen Harbor Boating Association)^{1,2}, and 3) especially during the boating season (primarily the summer months), if space is available the public can dock their boats at the Association without having to be a member¹.

Navy Response to RIDEM Comment No. 1: *The narrative will be modified to reference the Allen Harbor Boating Association. The phrase "restricted recreational" is used in order to convey clarity and transparency to the community. The Navy does not disagree with the points the RIDEM has provided; however, to suggest that this area is "recreational" would give a false pretense since the inference in the RIDEM Remediation Regulations definition of "recreational" use assumes remediation to "residential" criteria whereas the proposed remediation utilizes necessary land use restrictions. Please note that the preferred remedial alternative for the Site 16 soils in the immediate vicinity of Building E-107 specifies the remediation of the 0-2 foot soils only to the RIDEM residential DEC's. Receptor exposure to the subsurface soils would be controlled by land use controls (LUCs)/soil management plans (SMPs). So, in effect, "unrestricted" development/use of the area is prohibited. (Please see BCT meeting notes of March 28th, 2013. RIDEM has agreed to the use of the phrase "restricted recreational" in the proposed plan.)*

RIDEM Follow-Up to Comment No. 1: RIDEM disagrees with the Navy response. For clarity, while the cleanup standards are the same for residential use and recreational use the land uses and activities that will take place on the land are completely different. RIDEM concurs that residential use should not be allowed at the marina. It is anticipated that the Navy will place an ELUR on the marina property that allows for recreational use, but will prohibit residential use. With respect to "restricted recreational use" it does not meet the definition for this use as noted in Section 3.39 of the RIDEM Remediation Regulations, Amended 2011 and as outlined in the original comment.

While RIDEM at an earlier meeting agreed to the term "restricted recreational use" it was for the purpose of noting that we would restrict the marina to recreational uses. The intent was that residential use would not take place. Upon reflection, the term "restricted recreational use" would be confusing to the public as it implies something that is not the case. As originally requested, please remove the phrase "restricted recreational use". The Navy can note, however, that the marina will be "restricted to recreational use".

Navy Response to RIDEM Follow-up Comment No. 1: The phrase "restricted recreational" will be deleted. The text at the bottom of page 4 will be modified to read as follows: "However, it is anticipated that the area that is in the immediate vicinity of Building E-107 (the Marina Building) will continue to be used for marina purposes and exposure to subsurface soils in that area will be prohibited by land use controls (LUCs) and soil management plans (SMPs), respectively. For example, future residential land use will be prohibited."

***RIDEM Comment No. 2 - Page 4, Column 2, Bottom Paragraph:** This paragraph references a NCBC Davisville base-wide background study. Please note that this study is no longer considered valid.

Navy Response to RIDEM Comment No. 2: The narrative is not citing the referenced background soil dataset as the rationale for deleting chemicals of concern. The dataset does exist and the referenced statement is simply advising the reader that site concentrations exceed the NCBC Davisville background soil dataset concentrations. Importantly, the 95% UCL (on the arithmetic mean) arsenic level based on the NCBC Davisville background soil dataset is equal to the RIDEM residential/industrial DEC for arsenic (7 mg/kg) which is also a background-based number. The NCBC Davisville background soil dataset appears to support the background level derived by the state and vice versa.

RIDEM Follow-Up to Comment No. 2: RIDEM is not saying that the study cannot be referenced, it is only saying that it is no longer considered valid as we now have updated procedures for determining background values (Section 8.06 of the RIDEM Remediation Regulations, Amended 2011). It is similar to when USEPA changes procedures and standards based on updated technology and information. The public should be aware that the cited study is dated and may not reflect current background values. Please revise as requested.

Navy Response to RIDEM Follow-up Comment No.2: The word **background** is bolded in text and thus further defined in the glossary of the proposed plan. For purposes of clarity, the definition of background in the glossary will be amended to note that the background soils study is dated and was conducted prior to publication of specifications in Section 8.06 of the RIDEM Remediation Regulations (Amended 2011).

***RIDEM Comment No. 3 - Page 6, Column 1, Paragraph 2:** To meet the requirements of the RODs for Sites 07 and 09, periodic **monitoring** is being conducted in accordance with the Long-Term **Monitoring** Program for each site." The Navy might want to mention the \$9 million cap that was constructed at Site 09.

Navy Response to RIDEM Comment No. 3: Agree.

RIDEM Follow-Up to Comment No. 3: Navy response is acceptable.

Navy Response to RIDEM Follow-up Comment No. 3: No further response required.

***RIDEM Comment No. 4 - Page 6, Column 2, Step 4:** Characterize the Risk, Bullet 1, Last Sentence – This bullet notes that there are no unacceptable risks to recreational users for surface soil. RIDEM disagrees with this portion of the statement as soil sample SB16-095 (next to Building E-107) at the 0 to 2' depth for example has exceedances for benzo(a)pyrene (730 ug/kg) and chrysene (1100 ug/kg) which exceed RIDEM acceptable levels of 400 ug/kg for each constituent. Please remove the recreational user from this statement and include in the former statement which notes exceedances of acceptable levels for future residents.

August 2013

Navy Response to RIDEM Comment No. 4: *The referenced text is stating the outcome of the baseline risk assessment, a component of the Remedial Investigation (RI) prepared for Site 16. Risk estimates presented in the RI are based on exposure point concentrations (EPCs) (that typically represent the 95 % upper confidence limit [UCL] on the arithmetic mean of concentrations detected within an exposure unit) and a set of exposure factors that represent "how" the recreational receptor is likely exposed. The risk estimates and conclusions are not based on concentrations detected at a single location or on comparisons to the RIDEM criteria. The following clarifying sentence will be added to the Proposed Plan (PP) section titled, "Summary of Results for Site 16 Human Health and Ecological Risk Assessments": "The results of the risk assessments, prepared per standard EPA risk assessment protocol, are described below."*

RIDEM Follow-Up to Comment No. 4: While RIDEM does not concur with the methodology, the response is acceptable.

Navy Response to RIDEM Follow-up Comment No. 4: *No further response required.*

***RIDEM Comment No. 5 - Page 7, Exhibit 2, Carcinogens:** Please change "For example, exposure to a particular carcinogenic chemical may present a 1-in-10,000 additional chance of causing cancer over an estimated lifetime of 70 years. This can also be expressed as 1×10^{-4} ." "For example, exposure to a particular carcinogenic chemical may present a 1 additional case of cancer above normal background rates in 10,000 which would be expressed as 1×10^{-4} ." Similarly please revise the 1×10^{-6} and RIDEM 1×10^{-5} example.

Navy Response to RIDEM Comment No. 5: Agree.

RIDEM Follow-Up to Comment No. 5: Navy response is acceptable.

Navy Response to RIDEM Follow-up Comment No. 5: *No further response required.*

***RIDEM Comment No. 6 - Page 9, Table 1. Soil Cleanup Levels, Column 3, Row 1:** Please change "Residential/Restricted Residential User" to Residential/Recreational User".

Navy Response to RIDEM Comment No. 6: *Per BCT discussions of March 28, 2013, the referenced column heading will read, "Residential/Restricted Recreational".*

RIDEM Follow-Up to Comment No. 6: Please change to Residential/Recreational User as originally requested. See RIDEM Comment to Navy Response for RIDEM Comment No. 1.

Navy Response to RIDEM Follow-up Comment No. 6: Agree. However, please also see responses to RIDEM Comment No. 1.

***RIDEM Comment No. 7 - Page 9, Table 1. Soil Cleanup Levels, Footnote 1:** If we use benzo(a)pyrene (BaP) equivalents as a cleanup goal, please explain how we know if we exceed anyone of the seven constituents that comprise the BaP individually. For example, Indeno(1,2,3-cd)pyrene has a Residential/Recreation Direct Exposure Criteria of 0.9 mg/kg. If the concentration of this chemical were found to be 1.8 mg/kg (twice the allowable limit) it would only register as 0.18 mg/kg ($1.8 \text{ mg/kg} \times 0.1 \text{ BaP equiv.}$), much less than the 0.4 mg/kg allowed, but would still exceed the RIDEM Residential/Recreational Direct Exposure Criteria.

Navy Response to RIDEM Comment No. 7: *First, please note footnote No. 4 to Table 1 regarding the soil clean-up levels to be applied to the 0-2 bgs soils in the immediate vicinity of Building E-107:*

.... "The goals established for the "restricted recreational user" are **the RIDEM residential land use criteria** and apply to the soils in the immediate vicinity of the Marina Building only." **For clarity, the residential DEC's for each of the carcinogenic PAHs that make up the calculated benzo(a)pyrene equivalent (BaPeq) concentration will be specified in this footnote.** This is in agreement with the numerous teleconferences/meetings held over the last several months to resolve the remedial approach for surface soils in the immediate vicinity of Building E-107.

Second, the remedial level presented in the Feasibility Study (FS) for the BaPeqs in soil for the hypothetical future resident is 0.15 mg/kg. This is a risk-based goal derived based on the methodology presented in the Phase III remedial investigation report. This remedial level represents the 1E-05 cancer risk level, the State of Rhode Island cumulative cancer risk benchmark. Per our E-mail correspondence exchange of March 25, 2012 (see Attachment A, from Ms. Lee Ann Sinagoga to Mr. Richard Gottlieb), **from a risk perspective**, setting the remedial level for the BaPeq's (representing the carcinogenic PAHs as a group) at 1E-05 is more conservative than specifying the RIDEM residential DEC's for each of the individual carcinogenic PAHs. In fact, the cancer risk estimate associated with the RIDEM residential DEC for benzo(a)pyrene alone (0.4 mg/kg) is 3E-05 (for the hypothetical future resident). However, since the RIDEM residential DEC's are not strictly risk-based numbers (please see the footnotes applied to Table 1 of the RIDEM regulations), it is possible that a location might have a chrysene concentration (for example, a concentration of 0.5 mg/kg) greater than it's associated RIDEM residential DEC (0.4 mg/kg) but, if chrysene was the only PAH detected (an unlikely scenario), the calculated BaPeq concentration would be less than the 0.15 mg/kg. Per previous BCT discussions, the Navy has evaluated that cPAH data set for the Site 16 NCA area to assure that all locations with exceedances of the residential DEC's were identified and evaluated in the FS for Site 16 (when the hypothetical future residential land use was evaluated). Conservatively, footnote 4 of Table 1 will be amended to state that the remedial levels for the cPAHs in soil for the hypothetical future land use will be 0.15 mg/kg for the cPAHs (as a group) calculated in terms of the BaPeq's and the RIDEM residential DEC's for each individual cPAH.

Third, the remedial level presented in the FS for the BaPeqs in soil for the industrial land use scenario is 0.8 mg/kg (which is the risk-based goal derived for the recreational user as defined in the Phase III RI report). The RIDEM industrial DEC for benzo(a)pyrene is also 0.8 mg/kg. In contrast to the RIDEM residential DEC's, the RIDEM industrial DEC's do appear to be risk-based numbers. Although they are calculated using methodology different from the standard EPA methodology used in the Phase III RI, the RIDEM industrial DEC's do appear to be calculated using the same relative potency factors used by the EPA for the cPAHs. Therefore, the issue raised in the reviewer's comment does not occur. For example, whereas the RIDEM residential DEC's for benzo(a)pyrene and chrysene are the same (0.4 mg/kg), the RIDEM industrial DEC for chrysene (780 mg/kg) is 3 orders of magnitude greater than the RIDEM industrial DEC for benzo(a)pyrene (0.8 mg/kg). Whereas the RIDEM residential DEC for indeno(1,2,3-cd)pyrene (0.9 mg/kg) is approximately twice the RIDEM residential DEC for benzo(a)pyrene (0.4 mg/kg), the RIDEM industrial DEC for indeno(1,2,3-cd) (7.8 mg/kg) is one order of magnitude greater than the RIDEM industrial DEC for benzo(a)pyrene (0.8 mg/kg). These order-of-magnitude differences in the RIDEM industrial DEC's reflect the EPA's current relative potency factors (i.e., benzo(a)pyrene is considered 1000 times more potent than chrysene, as a carcinogen).

RIDEM Follow-Up to Comment No. 7: Navy response is acceptable.

Navy Response to RIDEM Follow-up Comment No. 7: No further response required.

***RIDEM Comment No. 8 - Page 9, Table 1. Soil Cleanup Levels, Footnote 4:** Please change "restricted recreational user" to "recreational user". See Comment No. 1.

August 2013

Navy Response to RIDEM Comment No. 8: *Per BCT discussions of March 28, 2013, the referenced text will not be changed.*

RIDEM Follow-Up to Comment No. 8: Please change "restricted recreational user" to "recreational user". See RIDEM Comment to Navy Response for RIDEM Comment No. 1.

Navy Response to RIDEM Follow-up Comment No. 8: *Agree. However, please also see responses to RIDEM Comment No. 1.*

***RIDEM Comment No. 9 - Page 10, Table 2, Groundwater Cleanup Levels:** The Navy is proposing a cleanup level for chromium in groundwater of 214 ug/l which is based on the Facility-Wide Background Study that was done in 1996. At least 14 wells were evaluated for this study in the main center of NCBC. Of those wells tested the highest value was 214 ug/l at well MW-Z1-4. This well is about 400' east of Post Road (Route 1). This well discharges to Mill Creek which eventually discharges to Wickford Harbor. Therefore, groundwater from this well never reaches NCBC Site 16.

Well MW-Z4-1, located about 800' west of the former Building 41 at the intersection of Davisville Road and Thompson Road, had a concentration of 78.2 ug/l. Well MW-Z4-2, which is about 600' south of well MW-Z4-1 along Thompson Road was undetected for chromium. Well MW-Z3-3 located southwest of NCBC Site 02 had a chromium concentration of 16.7 ug/l. It is not clear what the background value for chromium should be as it is possible that wells MW-Z3-3 and MW-Z4-1 have been influenced by activities at the former Building 224. In either case a cleanup level for chromium of 214 ug/l seems very high since most of the chromium samples in the wells were less than 10 ug/l. A more appropriate cleanup level for chromium would be the MCLs.

Similarly, for nickel the highest value detected was at well MW-Z1-4 at 154 ug/l, same well as above, this water never reaches NCBC Site 16. The next highest value detected was at well MW-Z4-1 at 53.3 ug/l. This is lower than the MCL of 100 ug/l. The groundwater cleanup level should be the MCL.

For thallium the highest concentration detected was 4.1 ug/l at well MW-Z2-4. This well discharges to Davol Pond and Hall Creek and would therefore not reach NCBC Site 16. The next highest value is 2.2 ug/l which is very close to the MCL of 2.0 ug/l. The groundwater cleanup level should be the MCL.

Navy Response to RIDEM Comment No. 9: *The Basewide Ground Water Inorganics Study was conducted, in part, to determine background values that may be used when "performing feasibility studies and for evaluating remedial alternatives at the Main Center and West Davisville areas of NCBC". (See page 43 of the subject background report.) Site 16 is within the "Main Center" of the former NCBC Davisville facility. The inorganic background values recommended in the study are not (and were never intended to be) "specific" to any one particular site at the former NCBC Davisville; rather, they represent inorganic groundwater chemistry not affected by historic Naval operations in these general areas. As indicated in the report, the values represent both naturally occurring inorganic concentrations as well as typical non-Navy-related anthropogenic influences on the inorganic chemistry of the groundwater (see page 37 of the report).*

RIDEM Comment No. 9 appears to suggest that the basewide background study was not finalized or accepted by EPA/RIDEM. Unfortunately, the Navy was not aware that the Final Base Wide Inorganics Study prepared by Stone and Webster in 1996 was no longer considered valid by RIDEM or EPA. The Navy requests additional technical information as to why and when this

August 2013

determination was made. We also request clarification via what mechanism of the Federal Facilities Agreement the Navy was notified that a final document was no longer considered valid. While this determination may be appropriate under Section 7.9, proper notification was never made to the Navy by either regulatory party. This notification should identify the nature of the modification to a final document; and what "significant new information" is available to support the proposed changes to the final document.

The Navy is at the PP stage of the environmental work at Site 16. Given the potential importance of background values, the notification referenced above should have been made in a timely manner so that the issue could be resolved and would not impact progress for Site 16. If metals were significant groundwater contaminants at Site 16, the lack of approved background values may have had a more significant impact on remedial decision making for the site. However, since metals are not significant groundwater contaminants at Site 16 and for purposes of finalizing the PP for Site 16, the Navy agrees that the groundwater clean-up levels for the referenced metals in Table 10 of the PP simply read "Facility-Wide Background or MCL whichever is higher" (as recommended in EPA Comment No. 45) with the understanding that the Navy, EPA, and RIDEM will resolve this issue during the preparation of the long-term monitoring plan for Site 16.

RIDEM Follow-Up to Comment No. 9: RIDEM concurs with the Navy response to the extent that we will resolve the groundwater cleanup levels during the preparation of the long-term monitoring plan for NCBC IR Site 16.

Navy Response to RIDEM Follow-up Comment No. 9: Comment acknowledged.

***RIDEM Comment No. 10 - Page 11, Column 2, Alternative S-2, Paragraph 1:** This paragraph states that soils in the marina area would be cleaned up to residential standards, but LUCs would be implemented to maintain industrial uses and prevent residential uses. While this is fine, somewhere in this paragraph it should be explained that the cleanup to residential standards is to allow the continued recreational use of the area.

Navy Response to RIDEM Comment No. 10: Agree. The referenced sentence will be changed to read, "...backfilled with clean soil to the existing grade to allow for continued marina use at the ground surface."

RIDEM Follow-Up to Comment No. 10: Navy response is acceptable.

Navy Response to RIDEM Follow-up Comment No. 10: No further response required.

***RIDEM Comment No. 11 - Page 11, Column 2, Alternative S-3, Last Sentence:** This sentence seems to state that LUCs would restrict recreational use which in turn will somehow maintain a 2-foot soil cover. Perhaps this could be re-written to state that an LUC will prevent residential use of the marina area, but will allow for recreational use and another LUC will be implemented for the maintenance of a two foot soil cover and soil management plan. This comment also applies to the restriction of recreational use for Alternatives S-3A, S-4, and S-6.

Navy Response to RIDEM Comment No. 11: Generally agree. The referenced text will be changed to state that, "LUCs would be implemented that would prevent residential use of the marina area, allow for recreational use associated with the marina, maintain the 2-foot cover, and implement a soil management plan."

RIDEM Follow-Up to Comment No. 11: Navy response is acceptable.

Navy Response to RIDEM Follow-up Comment No. 11: No further response required.

August 2013

***RIDEM Comment No. 12 - Page 14, Alternative S-5: Excavation and Off-Site Disposal - Unrestricted Use:** Please remove the reference to the marina as it is not necessary since there would be unrestricted use of the entire site, including the marina.

Navy Response to RIDEM Comment No. 12: Agree.

RIDEM Follow-Up to Comment No. 12: Navy response is acceptable.

Navy Response to RIDEM Follow-up Comment No. 12: No further response required.

***RIDEM Comment No. 13 - Page 14, Alternative G-3A:** As part of this alternative groundwater adjacent to Allen Harbor should be monitored similar to what is proposed for Alternative G-3B since alternative G-3A also has a waste management area. This comment also applies to Alternatives G-4, G-5 and G-6.

Navy Response to RIDEM Comment No. 13: Agree. The additional monitoring will be noted along with the description of the MNA monitoring.

RIDEM Follow-Up to Comment No.13: Navy response is acceptable.

Navy Response to RIDEM Follow-up Comment No. 13: No further response required.

***RIDEM Comment No 14 - Page 15, Preferred Alternative, Soil Alternative S-3A:** Please remove the reference to restricted recreational land use especially since it is relating it to excavation of soils and rewrite to state that the surface soils in the vicinity of Building E-107 will be cleaned up to allow for recreational land use coupled with LUCs to prevent contact with underlying contaminated soils that will remain on site.

Navy Response to RIDEM Comment No. 14: The phrase "restricted recreational land use" is specifically used because the preferred alternative specifies the remediation of surface soils **only** to RIDEM residential DEC's. As explained in the text at the top of page 16, "Restricted recreational land use is specified because unauthorized excavation and/or disposal of soils greater than 2 feet bgs would be prohibited under soil alternative S-3A." (Please see BCT meeting notes of March 28th, 2013. RIDEM has agreed to the use of the phrase restricted recreational in the proposed plan.)

RIDEM Follow-Up to Comment No. 14: The term "restricted recreational land use" implies that recreational use is restricted. What is restricted is the digging into the soil, not the recreational activity that is taking place at the surface. This is why the 2-foot soil cover will be coupled with LUCs and a soil management plan. The term "restricted recreational land use" is confusing to the public. See Comment No. 1.

Navy Response to RIDEM Follow-up Comment No. 14: The referenced text (second bullet at the bottom of page 15) will be modified to state: Chemical concentrations exceeding soil cleanup levels for the residential land use scenario occur in the vicinity of Building E-107 (the Marina area). With concurrence from RIDEM, in the Marina area, excavation of the top two feet of contaminated soils exceeding criteria, maintenance of a clean 2-foot cover, LUCs to protect the cover and prevent exposure to subsurface soils under the cover, and monitoring will achieve RIDEM standards to permit continued recreational use of the Marina area.

August 2013

***RIDEM Comment No. 15 - Table 3, Evaluation of Soil Alternatives, Item 4 (Reduces Mobility, Toxicity and Volume):** Alternative 2 which is just a cover and LUCs partially or potentially meets criteria, but Alternative S-3A which includes excavation does not meet the criteria. Alternative S-3A should be a full circle, not a circle with a line through it. Similarly, Alternative S-5 which is excavation for unrestricted use would entail removing all the toxicity, mobility and volume should be a filled in circle since it would exceed criteria as opposed to the full circle that is there now. Please change.

1 - Telephone conversation on 20 March 2013 between Richard Gottlieb of RIDEM and Commodore Chris Courtney of the Allen Harbor Boating Association.

2 - RIDEM Remediation Regulations, November 2011, Section 3.62.

Navy Response to RIDEM Comment No. 15: Agree.

RIDEM Follow-Up to Comment No. 15: Navy response is acceptable.

Navy Response to RIDEM Follow-up Comment No. 15: No further response required.

**Navy Response to United States Environmental Protection Agency (USEPA)
New England – Region I Comments and Follow-up Comments on Draft Proposed Plan for Installation Program Site 16 for
Former Naval Construction Battalion Center, North Kingston, Rhode Island
Dated March 2013, North Kingstown, Rhode Island
(USEPA Region I Correspondence Dated May 6, 2013)
(USEPA Region I E-mail Dated July 25, 2013)**

Note to Reader: The EPA original comments were received (and responded to) in a table/matrix format. The EPA follow-up comments were received (and responded to) in a narrative format. The follow-up comments appear immediately after the original comments. The follow-up responses are italicized.

Comment Number	Page	Location	Comment	Response to Comment
1	1	Scroll and Box	<ul style="list-style-type: none"> Describes a public “meeting,” but the “Let Us Know What You Think” box describes a public hearing. Revise for consistency. 	<ul style="list-style-type: none"> Agree. The scroll “The Proposed Plan” will be revised as follows: “public meeting” will be revised to “public hearing” to be consistent with the adjacent text box.
2	1	Box	<ul style="list-style-type: none"> In the third bullet add at the end: “until groundwater cleanup standards are achieved” 	<ul style="list-style-type: none"> Agree. The suggested change will be made.
3	2	Globally	<ul style="list-style-type: none"> Revise “Site” to “site 16”. The NPL Site is capitalized the subareas of the Site are not capitalized. 	<ul style="list-style-type: none"> Disagree. “Site” in “Site 16” is capitalized as this is a proper noun, a title.
4	1	Introduction paragraph	<ul style="list-style-type: none"> In the second sentence remove “and the Environmental Protection Agency (EPA),” and insert after “concurrence from” insert “the Environmental Protection Agency (EPA) and.” 	<ul style="list-style-type: none"> Agree. The suggested changes will be made.
5	2	Exhibit 1 box	<ul style="list-style-type: none"> In the last sentence of the third paragraph it says the site is not the “primary source” of PAHs to sediments, but on page 4 it says the site activities are “unlikely” to be a source” of the PAHs. Use consistent terminology. 	<ul style="list-style-type: none"> Agree. The phrase “not the primary sources of the PAHs” will be used throughout document.

Comment Number	Page	Location	Comment	Response to Comment
6	3	Figure 1	<ul style="list-style-type: none"> • A legend is needed to identify the red outlined area as Site 16. The current call-out box is not sufficient since the area at OU8 is also outlined in red. • Add an overview map showing the relative position of the Davisville NCBC within the state. 	<ul style="list-style-type: none"> • Agree. The “outlined” red area for OU 8 will be removed. • Agree. A legend will be added to the figure. • Agree. An overview map, showing the relative position of NCBC Davisville within the state, will be added.
7	4	First paragraph	<ul style="list-style-type: none"> • Define “plume” as “an area of VOC-contaminated groundwater.” • Provide an example of VOCs, such as TCE. 	<ul style="list-style-type: none"> • Agree. The suggested change will be made. • Agree. The suggested change will be made.
8	4	Third paragraph	<ul style="list-style-type: none"> • Define “fill material” and “subsurface” 	<ul style="list-style-type: none"> • Agree. The two terms will be bolded in the text and will be added to the Glossary of Terms, as follows: “Fill Materials: Materials used to fill a low area such as a depression in the ground surface, or to build up the elevation of land (and generally including or consisting mainly of soil and/or rock). At Site 16 specifically, fill material also included construction debris, vegetation, and other discarded materials.” “Subsurface: Beneath the ground surface.
9	4	Sixth paragraph	<ul style="list-style-type: none"> • Define “industrial/commercial” as prohibiting residential use. • Correct spelling of “restricted.” • For the marina “restricted recreational use” needs to be defined, since the way the Navy is proposing using the term (meeting residential standards in the top two feet and 	<ul style="list-style-type: none"> • Agree. The definition will be added to the glossary. • Agree. Spelling will be corrected. • Agree. The phrase “ restricted recreational use” will be bolded in text and will be defined in the Glossary of Terms, as follows: “Restricted recreational use”: Refers to

Comment Number	Page	Location	Comment	Response to Comment
			then LUC restrictions to prevent disturbance of subsurface soil) is different than how the term is used in the RI Remediation Regulations (limited, controlled recreational activity that permit industrial cleanup standards to be applied rather than the normal residential cleanup standards for “unrestricted” recreational used.	remedial approach to support existing recreational use of property whereby, conservatively, the surface soil interval in the area will meet State of Rhode Island Remediation Regulations for a residential land use scenario. However, whereas this approach is not consistent with RIDEM definition of “unrestricted” recreational use, land-use restrictions for the area will prevent disturbance (and, thus, human exposure) to subsurface soils (i.e., soils deeper than 2 feet below ground surface and the top of the water table) without the approval of the Navy, USEPA, and RIDEM.”
<p>EPA Follow-up Comment No. 9, Page 4, Sixth Paragraph: Remove definition for "Restricted Recreational Use." Suggest using the following definition for "Recreational Use": "Refers to remedial approach which will only permit recreational use within the Marina area of the property that does not interfere with the CERCLA remedy established under the ROD, in this case the creation and maintenance of a two foot thick cover of clean soil over deeper contaminated soil. Permitted and prohibited recreational activities, consistent with the CERCLA remedy, will be established under a LUC, which will also restrict residential use of the area. Modification of the definitions of permitted and prohibited recreational activities under the LUC can only be made with the approval of the Navy, USEPA, and RIDEM."</p> <p><i>Navy Response to EPA Follow-up Comment No. 9: Agree. Per the BCT comment-review teleconferences which have occurred over the course of the past several months, the word “restricted” will be removed from the referenced paragraph. The definition recommended by EPA will be added to the glossary of the PP.</i></p>				
10	4	9 th paragraph	<ul style="list-style-type: none"> A heading should be added before this paragraph. Suggest “VOC Results” or similar to inform reader this section specifically refers to VOC results in various media. 	<ul style="list-style-type: none"> Agree. The suggested change will be made.
11	4	10 th paragraph	<ul style="list-style-type: none"> A heading should be added before this paragraph. Suggest “PAH Results” or similar 	<ul style="list-style-type: none"> Agree. The suggested change will be made. Similar subtitles will be added to the

Comment Number	Page	Location	Comment	Response to Comment
			to inform reader this section specifically refers to PAH results in various media.	paragraphs for the dioxins/furans and the metals.
12	4	11 th paragraph	<ul style="list-style-type: none"> Define surface soil, shallow subsurface soil, and shallow groundwater. The last sentence says sediment PAHs are “unlikely” to be from historical operations while the Exhibit 1 Box on page 2 says site operations are not the “primary source” of sediment PAHs. Use consistent terminology. 	<ul style="list-style-type: none"> Agree. The three terms will be bolded in the text and will be added to the Glossary of Terms, as follows: “Surface Soil: The soil interval between the ground surface and 2 feet below ground surface.” “Shallow Subsurface soil: The soil interval between 2 feet below ground surface and the top of the saturated zone (generally no deeper than 10-15 feet below the ground surface.)” “Shallow groundwater: The zone including the water table (i.e., the upper-most groundwater zone) and generally extending to a depth of approximately 25-30 feet below the ground surface.” Please see response to EPA Comment No. 5.
13	4	12 th paragraph	<ul style="list-style-type: none"> Explain whether dioxins/furans were detected in surface, shallow or deep soil. 	<ul style="list-style-type: none"> Agree. The referenced text will be modified to state that the dioxins/furans were detected in surface and shallow subsurface soils.
14	4	13 th paragraph	<ul style="list-style-type: none"> The first sentence should be moved toward the end of this paragraph. Revise second sentence to read “Most locations with arsenic or lead are within the northwestern portion of the NCA.” 	<ul style="list-style-type: none"> Agree. Agree. Sentence will be revised to read: “Most locations with elevated levels of arsenic or lead...”

Comment Number	Page	Location	Comment	Response to Comment
15	5	Figure 2	<ul style="list-style-type: none"> Figure is very busy, is everything needed? This figure should reflex the locations of the buildings and activities noted in the proposed plan on page 4 not everything Navy has done in site 16. Figure refers to "Suspected FFA..." but "suspected" is nowhere in document text. Revise for consistency. Figure refers to suspected USTs. Navy removed several USTs in EBS 28 area. Remove the word suspected. Need to use a call-out box or a legend to identify the black line around the NCA. Legend is blank for "Developed area..." and "Undeveloped..." The blue boundary (TCE groundwater plume) extends into Narragansett Bay. Is this eastern extent confirmed or assumed? If assumed, a different boundary line should be used to depict that extent, such as a dashed blue line. The marina area should be delineated as a separate area from the adjacent undeveloped north central area (it is currently, and will continue to be, operated as a recreational facility and has different cleanup standards). 	<ul style="list-style-type: none"> Agree that the figure is very busy. However, please note that some of the detail provided was requested by previous reviewers. We would like to honor those previous comments. Agree. The word "suspected" will be removed. It was the descriptor from the EBS component of the work for NCBC Davisville. Agree regarding the wording about the USTs. Agree regarding the black line. The legend will be revised and no longer refer to "Developed" and "Undeveloped". The NCA will simply be distinguished by the black line around the NCA. Agree regarding the need for a dashed blue line to represent the eastern extent of the plume. Disagree. The scale of this figure is such that the marina area is not well distinguished from the NCA. Figure 3 (Marina Building E-107 Area) was added to the PP to identify this area.
16	6	1 st paragraph	<ul style="list-style-type: none"> Revise 3rd sentence to "...environmental investigations at other <u>Davisville, NCBC</u> 	<ul style="list-style-type: none"> Agree. The suggested change will be made.

Comment Number	Page	Location	Comment	Response to Comment
			sites...”	
17	6	2 rd paragraph	<ul style="list-style-type: none"> Define ROD here 	<ul style="list-style-type: none"> The acronym has been previously defined and the term is defined in the glossary. However, for additional clarity, the phrase “decision documents” will be added immediately after the acronym.
18	6	3 rd paragraph	<ul style="list-style-type: none"> Define RI/FS 	<ul style="list-style-type: none"> Disagree. The acronym has been previously defined and the term is defined in the glossary.
19	6	7 th paragraph	<ul style="list-style-type: none"> 3rd sentence, add “hypothetical potential” in front of the word residents. (Consistent with eco risk section.) 	<ul style="list-style-type: none"> Agree. The suggested change will be made.
20	6	11 th paragraph	<ul style="list-style-type: none"> 1st bullet, define surface soil; delete “(but not exclusively)” it is redundant 1st bullet, add exposure between acceptable and level 	<ul style="list-style-type: none"> A definition for surface soil has been added to the glossary. Agree regarding the deletion of the phrase “but not exclusively”. Agree regarding the addition of the word “exposure”.
21	6	11 th paragraph	<ul style="list-style-type: none"> 2nd bullet, delete “(but not exclusively)” it is redundant; also delete “in the northwestern portion of the NCA” because this area is not unique and does not have a different remedy from other areas in the NCA. See comment above regarding the terminology used associated with recreational exposure to subsurface soil. 	<ul style="list-style-type: none"> Agree regarding the deletion of the phrase “but not exclusively”. Disagree regarding the discussion about the northwestern portion of the NCA. The text is simply letting the reader know “where” the majority of the contamination is. The “recreational use” issue referenced in the comment above should not be confused with the outcome of the baseline risk assessment presented in the RI and discussed here. The referenced text is simply reporting the results of the RI risk assessment. The RI did not assume that residential “equals” recreational in terms of exposure

Comment Number	Page	Location	Comment	Response to Comment
				assumptions or risk. This is a different issue from the RIDEM position that Recreational Facilities for Public Use should be remediated to residential standards.
<p>EPA Follow-up Comment No. 21, Page 6, 11th Paragraph: If the term "recreational use" is used differently between the risk assessment and how the RI remediation regulations define the term the difference should be explained since "recreational use" will be a defined term (see above).</p> <p><i>Navy Response to EPA Follow-up Comment No. 21: Agree. The definition presented in the glossary will specify the difference. Basically, the RI risk assessment did not assume that, in effect, receptor exposure under the recreational land-use scenario is the "same" as receptor exposure under the residential land use scenario (this is the basic assumption of the RIDEM regulations that stipulate the RIDEM DEC's for the residential land use scenario apply to recreational land use). The risk assessment presented in the RI used a more CERCLA-type risk assessment approach and assumed that the recreational receptor is exposed less frequently to soil contaminants than a residential receptor. For example, boats are removed from the marina during the cold weather months, thus, the potential for receptor exposure to soils at the marina is significantly reduced during the cold weather months (i.e., weather conditions limit the use of the marina area by recreational users).</i></p>				
22	6	11 th paragraph	<ul style="list-style-type: none"> • Third sentence, change current sentence to "...found in groundwater, including PAHs..." • Remove the comma after the word metals 	<ul style="list-style-type: none"> • Agree. The suggested change will be made. • Agree. The suggested change will be made.
23	7	1 st paragraph	<ul style="list-style-type: none"> • Remove the sentence that begins "However, most of..." because the conditionality described is not fully explained in the paragraph. 	<ul style="list-style-type: none"> • Disagree. The PP is intended to provide a brief, concise outcome of the RI, not all of the analysis or details presented in the RI. The referenced text accurately reports the conclusions presented in the RI.

Comment Number	Page	Location	Comment	Response to Comment
24	7	1 st bullet	<ul style="list-style-type: none"> Revise first bullet to read, "There are no risks to individuals touching..." Define seeps as "groundwater seeping into Allen Harbor" or similar 	<ul style="list-style-type: none"> Disagree. While it may seem concise to say that there is no risk, unfortunately, there is no "zero" risk for chemicals that are carcinogens. Thus, risk estimates are more correctly presented as exceeding or not exceeding regulatory benchmarks, such as the EPA target risk range. Agree. Please note that "seep" is already defined in the glossary.
<p>EPA Follow-up Comment No. 24, Page 7, 1st bullet: Regarding the risk sentence suggest saying: "Individual contact does not pose a CERCLA risk."</p> <p>Navy Response to EPA Follow-up Comment No. 24: Agree. The text will state that, "Individual contact with the surface waters (e.g., seeps) along the southern shore of Allen Harbor do not pose a CERCLA risk."</p>				
25	7	2 nd bullet	<ul style="list-style-type: none"> The bullet should explain that (according to earlier text previously commented on), there is limited-to-no site-related contamination in the sediment, therefore there is no CERCLA risk 	<ul style="list-style-type: none"> Agree. Site 16 is not the primary source of the COPCs in the sediments of Allen Harbor. Agree that there is limited-to-no site-related contamination in the sediment; therefore, there is no unacceptable CERCLA risk. This information will be added to the referenced text.
26	7	Step 1	<ul style="list-style-type: none"> All bullets, identify the location of offending surface soil, and surface water 	<ul style="list-style-type: none"> Disagree. The purpose of the referenced bullets is simply to identify the ecological receptors evaluated in the risk assessment. They are not presenting conclusions regarding outcome of the ecological risk assessment or identifying impacted locations.
27	7	12 th paragraph	<ul style="list-style-type: none"> Revise the paragraph to more clearly explain what the predominant COPCs are. As it currently reads, PAHs may be interpreted to 	<ul style="list-style-type: none"> Agree. The text will be revised to more clearly state that the PAHs and metals are the predominant, site-related COPCs in Site 16

Comment Number	Page	Location	Comment	Response to Comment
			<ul style="list-style-type: none"> be the predominant COPCs. Remove the discussion of any sediment COPCs. Define surface soils. The “point of clarification” should only be included in the human health risk assessment section. This section is discussing the RI not the FS. However, the sentence should include a brief explanation of the results and why it is OK to discard pesticides from the risk assessment. 	<p>surface soil.</p> <ul style="list-style-type: none"> Disagree. Significant work (including ecological risk assessment) was conducted by Navy for Allen Harbor and this is important information to convey to the reader. Agree. Definition will be added to glossary. Disagree. This clarification was specifically added per previous reviewer comments. Please note that this is COPCs discussion only. Pesticides were not selected as COCs for human or ecological risk assessments. The results of the risk assessment are provided in Step 3.
<p>EPA Follow-up Comment No. 27, Page 7, 12th Paragraph: The purpose of the Proposed Plan is to identify CERCLA COPCs. Even though the Navy studied the sediments, they have been screened out as not being contaminated with CERCLA contaminants. So don't discuss them in the Proposed Plan or it will add confusion to the public as to why the Navy is not remediating the contaminated sediments it studied.</p> <p>Navy Response to EPA Follow-up Comment No. 27: <i>The Navy agrees that we would not want to confuse the public regarding this issue. We understand the EPA concerns that, at the end of the day, the PP is all about addressing site-related contamination presenting unacceptable CERCLA risk (i.e., the final CERCLA chemicals of concern [COCs] identified by the risk assessments). However, the referenced text on page 7 is intended to portray the “steps” of the ecological risk assessment process and accurately details “how” the ecological risk assessment for Allen Harbor was performed by EA (2004), including chemical of potential concern (COPC) selection. (Based on regulatory comments received by Navy on the ecological risk assessment, the EPA would not have accepted a risk assessment that did not evaluate all sediment, COPCs regardless of source.) The results of the ecological risk assessment are described under Step 3. For clarity, the following sentence will be added to the end of the text for Step 3: “Thus, based on analyses presented in the RI, no CERCLA COCs were identified for the sediments of Allen Harbor.”</i></p> <p><i>Also, please note that the Navy routinely informs the community regarding the CERCLA activities for Site 16 during its RAB meetings and through follow-up mailings. The sediment issue has been discussed several times. Based on questions asked during the RAB meetings, a clear explanation of “why” the Allen Harbor sediments are not being remediated is necessary in the PP. We believe the members of the public who</i></p>				

Comment Number	Page	Location	Comment	Response to Comment
<i>have actually been following the CERCLA activities for Site 16 would be more confused if it is not.</i>				
28	7	Step 2	<ul style="list-style-type: none"> The term “groundwater-seeps/surface water” is not consistent with other text describing seeps. Revise for consistency. Remove “sediments” 	<ul style="list-style-type: none"> Agree. The term “seeps”, as defined in the glossary, will be used consistently throughout the report. Disagree. See response to previous comment 27.
EPA Follow-up Comment No. 28, Page 7, Step 2: See previous comment about excluding discussion of sediments (don't discuss non-CERCLA contamination in this Proposed Plan). Navy Response to EPA Follow-up Comment No. 28: Please see response to EPA Follow-up Comment No. 27.				
29	7, 8	Step 3	<ul style="list-style-type: none"> The term “groundwater-seeps/surface water” is not consistent with other text describing seeps. Revise for consistency. Remove discussion of sediments Define surface soils. Define the meaning of “limited” in second sentence, or remove term. Replace “...refined information regarding...” with “...refined analysis about...” 	<ul style="list-style-type: none"> Agree. The term “seeps”, as defined in the glossary, will be used consistently throughout the report. Disagree. See response to previous comment 27. Agree. Definition will be added to glossary. Agree, The Phase II report (EA, November 2004) concluded “slight potential of risk from exposure to PAHs and pesticides [referring to sediments].” The text will be adjusted to quote the Phase II SLERA prepared by EA. Agree.
EPA Follow-up Comment No. 29, Pages 7 & 8, Step 3: See previous comment about excluding discussion of sediments (don't discuss non-CERCLA contamination in this Proposed Plan). Navy Response to EPA Follow-up Comment No. 29: Please see response to EPA Follow-up Comment No. 27.				

Comment Number	Page	Location	Comment	Response to Comment
30	8	1 st bullet	<ul style="list-style-type: none"> Move the first bullet concerning sediments to the beginning of both the human health and eco-risk sections and modify it to say that sediment (although evaluated in the risk assessments) was not a media of concern because sediment contamination is not site-related and does not exceed local anthropogenic background levels (as noted previously, be consistent on the terminology used to discuss this throughout the document). 	<ul style="list-style-type: none"> Agree. However, also, please see preceding responses to EPA comments regarding sediments. The Navy has expended considerable resources over the course of time to address the sediment issue at Site 16. The reference to sediments in the preceding comments should remain in the text (discussed above).
<p>EPA Follow-up Comment No. 30, Page 8, 1st bullet: Follow EPA's suggested text regarding sediments (see discussion above).</p> <p><i>Navy Response to EPA Follow-up Comment No. 28: Please see response to EPA Follow-up Comment No. 27.</i></p>				
31	8	RAO Paragraph	<ul style="list-style-type: none"> Last sentence implies that specific soil RAOs were developed for only the Benzene sub-area; specific RAOs were also developed for Marina Building and NCA. Appears sentence can be revised by removing the text in parentheses. 	<ul style="list-style-type: none"> Agree.
32	8	Soil RAO 1	<ul style="list-style-type: none"> Page 6, second bullet regarding subsurface soil, states no unacceptable risks to construction workers or trespassers. Also mentioned are exposures to dioxins/furans. However, Page 8 Soil RAO 1 includes construction workers but no mention of trespassers. And no mention of dioxins/furans. Revise as appropriate. 	<ul style="list-style-type: none"> Dioxins/furans are not COCs for the worker receptor. They are COCs for the resident. Unacceptable risks were not determined for the trespasser in the RI. The construction worker is referenced in the RAO to comprehensively cover the "worker population" and because of the presence of the subsurface debris.
33	8	Soil RAO 2&5	<ul style="list-style-type: none"> For the text of each of these RAO insert "sediment, and surface water" after 	<ul style="list-style-type: none"> Agree to add reference to sediment /surface water. However, the RAOs are the same

Comment Number	Page	Location	Comment	Response to Comment
			“groundwater.” These are only RAOs for Soil Alternative 5. The Soil RAOs for Soil Alternative 3A would replace “groundwater” with “sediment and surface water.”	across all alternatives. (Separate RAOs will not be presented for S3-A.) S-5 addresses the RAOs by complete removal. The other alternatives address RAOs through a combination of removal, the designation of the NCA as a WMA, and monitoring in conjunction with the groundwater alternatives.
34	8	Soil RAO 7	<ul style="list-style-type: none"> Remove the risk details now (text in parentheses)? Reference to Exhibit 2 more appropriate in 1st column paragraph describing RAOs. 	<ul style="list-style-type: none"> Agree regarding the “risk details”. Agree to move reference to Exhibit 2.
35	8	Groundwater RAO1	<ul style="list-style-type: none"> Groundwater RAO 1 is temporary outside of the waste management area (until groundwater cleanup standards are achieved) and a permanent RAO inside of the compliance boundary for the waste management area. 	<ul style="list-style-type: none"> Comment noted. However, a brief narrative discussing the “temporary” versus “permanent” issue will be added (just after the RAOs).
<p>EPA Follow-up Comment No. 35, Page 8, Groundwater RAO1: Note that EPA Region 1 is in the process of revising model language to describe groundwater RAOs in CERCLA decision documents. EPA will supply the approved model text, when it is released.</p> <p><i>Navy Response to EPA Follow-up Comment No. 35: Comment acknowledged. However, per EPA E-mail of August 15, 2013, the model language may not be available this fiscal year.</i></p>				
36	8	Groundwater RAO 4	<ul style="list-style-type: none"> Briefly describe “beneficial use” 	<ul style="list-style-type: none"> Agree. This RAO was specifically provided by the EPA. For the non-saline areas, a definition will be added to the glossary indicating that the “highest” beneficial use would be “use” as a domestic water supply source. However, this is a very unlikely scenario given the anticipated future land use

Comment Number	Page	Location	Comment	Response to Comment
			<ul style="list-style-type: none"> RAO4 only applies outside of the compliance boundary for the waste management area. 	<p>and the availability of a public water supply source.</p> <ul style="list-style-type: none"> Comment noted.
37	8	FS paragraph	<ul style="list-style-type: none"> Remove or explain “primary” in the sentence “...cleanup levels were developed for the primary soil COCS...” 	<ul style="list-style-type: none"> Agree. The word “primary” (with regard to soil COCs) will be removed. The original intent was to distinguish those soil COCs that are an outcome of the baseline risk assessment versus those chemicals identified as soil COCs <i>only</i> because of exceedances of RIDEM criteria.
38	8	Groundwater COC paragraph	<ul style="list-style-type: none"> Remove or explain “primary” in the sentence “...cleanup levels were developed in the FS for the primary groundwater COCS...” 	<ul style="list-style-type: none"> Agree. The word primary (with regard to groundwater COCs) will be removed from the sentence. The original intent was to distinguish those chemicals which were selected as COCs because of the outcome of the risk assessment and because they were clearly site-related (e.g., VOCs) from those chemicals which were added to the COC list <i>primarily</i> because they exceed MCLs/RIDEM criteria (i.e., the metals). Based on the analysis presented in the RI report for Site 16, this second list is better characterized as “secondary COCs”. There is limited evidence that the “secondary COCs” are site-related. However, they are included on the COC list (Table 2) because it is possible that metals mobility may be influenced by the site-related VOC contamination over the course of time. Thus, these parameters should be included in

Comment Number	Page	Location	Comment	Response to Comment
			<ul style="list-style-type: none"> ” There are “cleanup levels” for groundwater outside of the waste management area compliance boundary and “performance standards” (for monitoring) for groundwater inside of the compliance boundary. 	<p>the LTM for Site 16.</p> <ul style="list-style-type: none"> Agree. The suggested text will be added to the referenced text. The referenced terms will also be added to the glossary.
39	8	Summary of Remedial Alternatives	<ul style="list-style-type: none"> At the end of this paragraph, add “There are 7 remedial alternatives for soil and 8 for groundwater.” Add at the beginning of the first sentence: “A number of.” In the last sentence insert “in the Feasibility Study Addendum” after “developed.” 	<ul style="list-style-type: none"> Agree. Agree. Disagree. Recommend that the first sentence be modified to state: “Remedial alternatives were identified and evaluated in the Site 16 Feasibility Study <i>and Feasibility Study Addendum.</i>”
40	9	Table 1	<ul style="list-style-type: none"> Define the values in parentheses in the Industrial User column. Split the industrial column so that there is a column for direct exposure standards (under Alternative S-3A and a separate column of leachability standards (for the other Soil 	<ul style="list-style-type: none"> Agree. For those chemicals added to the COC list <i>only</i> because maximum detected concentrations exceed RIDEM criteria (i.e., they <i>are not</i> identified as COCs in the baseline risk assessment), the risk-based levels (calculated based on the risk assessment protocol for Site 16) for the industrial worker are provided in parentheses if they are more conservative than the RIDEM criteria. This explanation will be added to the footnotes. Disagree. The referenced table provides a summary of the cleanup levels being recommended. The actual selection process is presented in the FS.

Comment Number	Page	Location	Comment	Response to Comment
			<p>Alternatives).</p> <ul style="list-style-type: none"> Revise column heading to "Residential/Recreational User" For the "Residential/Recreational User" split the column so that there is a column for direct exposure standards (under Alternative S-3A and a separate column of leachability standards (for the other Soil Alternatives). 	<ul style="list-style-type: none"> The column header will read: "Residential/Restricted Recreational" Disagree. As noted above, the referenced table provides a summary of the cleanup levels being recommended. The actual selection process is presented in the FS.
<p>EPA Follow-up Comment No. 40, Page 9, Table 1: Regarding the second and fourth bullets - the column should then reference (through a footnote) whether the cleanup standards is based on direct contact or leachability.</p> <p><i>Navy Response to EPA Follow-up Comment No. 40: Agree. It will be foot-noted that the clean-up levels are direct contact exposure criterion unless noted otherwise.</i></p> <p>EPA Follow-up Comment No. 40, continued: Regarding the third bullet the column heading should be "Residential/Recreational."</p> <p><i>Navy Response to EPA Follow-up Comment No. 40, continued: Agree.</i></p>				
41	9	Footnotes 3, 4	<ul style="list-style-type: none"> Revise footnote text to state "...State of Rhode Island Residential Direct Exposure Criteria. ...State of Rhode Island Industrial/Commercial Direct Exposure Criteria." 	<ul style="list-style-type: none"> Agree.
42	9	Footnote 4	<ul style="list-style-type: none"> Remove the footnote because the residential standards apply both to the marina area where soil will be cleaned up in the top two feet to the residential standards, and to the marina subsurface soils and all soils throughout the remainder of the Site where residential standards will be used as the basis for establishing LUC boundaries. 	<ul style="list-style-type: none"> Disagree. The referenced footnote represents the results of lengthy discussions between the Navy and RIDEM regarding this issue. The clean-up levels for surface soils for the restricted recreational user in the immediate vicinity of the Marina Bldg. are the RIDEM residential DEC's. The more conservative of the RIDEM DEC's or the EPA risk-based

Comment Number	Page	Location	Comment	Response to Comment
				levels are the basis of the LUC boundaries across the remainder of Site 16 and for the subsurface soils in the vicinity of the Marina Bldg. This information will be added to the referenced footnote.
<p>EPA Follow-up Comment No. 42, Page 9, Footnote 4: Remove the footnote because the residential standards apply both to the marina area where soil will be cleaned up in the top two feet to the residential standards, and to the marina subsurface soils and all soils throughout the remainder of the Site where residential standards will be used as the basis for establishing LUC boundaries.</p> <p><i>Navy Response to EPA Follow-up Comment No. 42: Disagree. The referenced footnote accurately presents the results for Navy/RIDEM negotiations regarding this issue. As discussed above, the RI risk assessment methodology did not assume that "residential" equals "recreational" in terms of the potential for exposure. The clean-up levels established for the industrial land use scenario would actually be protective of the recreational land use scenario (as defined by the RI risk assessment). Please note that there will be a residential land use restriction for this area.</i></p>				
43	9	Table 1 and Footnote 5	<ul style="list-style-type: none"> In some cases in the table, the word "Leach" includes footnote 5, not in others. Also, define "Leach" abbreviation in the footnote. In footnote 5, only standards for RI GA leachability should be included. At the end of the first sentence add: "and downgradient sediment and surface waters." 	<ul style="list-style-type: none"> We can apply the footnote 5 to all uses of the term "Leach" in the table. However, we generally only apply the footnote to the first use in the table with the understanding that it has the same definition every time it is used. Also, the footnote <i>is</i> the definition of the term "Leach" Disagree. The groundwater underlying Site 16 is categorized as GB by RIDEM. Disagree. The referenced RIDEM criteria specifically address chemical migration from soils to groundwater.
<p>EPA Follow-up Comment No. 43 Page 9 and Footnote 5: In some cases in the table, the word "Leach" includes footnote 5, not in others. Also, define "Leach" abbreviation in the footnote.</p>				

Comment Number	Page	Location	Comment	Response to Comment
<p><i>Navy Response to EPA Follow-up Comment No. 43: Agree. Please see Navy response to EPA Follow-up Comment No. 40.</i></p> <p>EPA Follow-up Comment No. 43 Page 9 and Footnote 5, continued: In footnote 5, only standards for RI GA leachability should be included.</p> <p><i>Navy Response to EPA Follow-up Comment No. 43, continued: Agree.</i></p> <p>EPA Follow-up Comment No. 43 Page 9 and Footnote 5, continued: At the end of the first sentence add: "and downgradient sediment and surface waters."</p> <p><i>Navy Response to EPA Follow-up Comment No. 43, continued: Disagree. The referenced RIDEM GA/GB leachability criteria are specific to migration from soils to groundwater. Please note, however, that the referenced leachability criteria for soils for the volatile organics in the Site 16 plume would indeed be protective of receptors exposed to the surface waters of Allen Harbor because, as demonstrated in Appendix E of the recent FSA for Site 16, ecological criteria and recreational user criteria for ecological/human receptors exposed to volatile organics in pore water/surface water in Allen Harbor are significantly less restrictive than SDWA MCLs (the GA leachability criteria typically assume consumption of water at the GA groundwater criteria). Also, please note that based on the RI data, there is very limited evidence of VOCs in the vadose zone soils; the primary plume contaminants have "sunk" into the deeper saturated zone. Also, please note that the Navy will be monitoring shoreline wells and/or pore water and surface water (as necessary) during the LTM to monitor contamination reaching the Allen Harbor shoreline.</i></p>				
44	9	Footnote 6	<ul style="list-style-type: none"> • Revise text to "...considered in the development of the remedial alternatives..." • Also, the sentence on RIDEM criteria should clarify these criteria (e.g. direct exposure, leachability). • Remove the second sentence since TPH standards should not be considered under the development of the CERCLA alternatives (contaminated soil with both TPH and CERCLA contaminants can only be 	<ul style="list-style-type: none"> • Agree. However, this comment appears to contradict the third bullet under EPA Comment No. 44. • Agree. They are both direct contact <i>and</i> leachability. The text will be clarified accordingly. • Perhaps the reviewer is referring to the third sentence? Agree to remove sentence. However, please see first bullet.

Comment Number	Page	Location	Comment	Response to Comment
			remediated under a ROD to address the CERCLA exceedances).	
45	10	Table header vs. Footnote 1	<ul style="list-style-type: none"> Revise or explain different use of phrase “groundwater cleanup levels” vs. “groundwater cleanup goals” or revise for consistency. The third sentence of footnote 1 should be moved to a new footnote (that will become the new footnote 1) that footnotes the Table header, since the issue of cleanup standards vs. performance standards applies to all of the contaminants in the table. Screening levels (naphthalene) and SDWA Action Levels (lead) are not used to set cleanup goals, instead the screening/action levels reference risk-based standards for establishing the cleanup level. So, for naphthalene and lead cite as “EPA risk-based standards” and add a footnote for each contaminant citing the guidance used to establish the level (these guidance should then be cited as TBCs in the groundwater chemical-specific ARARs tables). Remove Facility Wide Background and replace with “MCL or Facility-Wide Background whichever is higher” as was agreed during the BCT meeting. 	<ul style="list-style-type: none"> The text throughout will be revised to use the phrase “groundwater cleanup levels”. Agree. This comment is somewhat confusing. We can agree to cite the numbers for naphthalene and lead as EPA risk-based standards. However, the actual source of the numbers does not change. The level for lead is the action level under the SDWA. The level for naphthalene is an EPA RSL (i.e., a risk-based concentration). Agree to use the phrase, “MCL or Facility-Wide Background, whichever is higher”.
<p>EPA Follow-up Comment No. 45, Page 10, Table header vs. Footnote 1: Regarding the third bullet - EPA was trying to determine if the EPA RSL was calculated or taken from a particular EPA risk guidance document, and if it was, whether that guidance document should be cited as a TBC in the Chemical-specific ARARs Table.</p> <p>Navy Response to EPA Follow-up Comment No. 45: <i>Thank you for the clarification. The naphthalene value is a calculated risk-based</i></p>				

Comment Number	Page	Location	Comment	Response to Comment
<i>concentration that is based on the current EPA CSFs/RfDs (already listed in the ARARs tables). The calculated value for naphthalene is the same as the current EPA RSL for tap water. For lead, the Action Level is from the MCL list and from the regulation that includes MCLs (40 CFR 141 Subpart G). The relevant MCL-associated regulations are already listed in the ARARs tables. This information will be added to Table 2 as requested (in footnotes).</i>				
46	10	Footnote	<ul style="list-style-type: none"> • Add EPA before MCL • Regarding the second sentence, only exceedances of MCLs & RIDEM standards were actually used to identify additional contaminants in the Table, so remove “, non-zero MCLGs.” • Delete RIDEM from footnote or add to table in applicable location (nickel) 	<ul style="list-style-type: none"> • Agree. • Agree. • As requested above, the “Basis” cell for nickel will state: “RIDEM or Facility-Wide Background, whichever is higher.
47	11	Bullet Soil Alternatives	<ul style="list-style-type: none"> • The concept of a waste management area is not a specific component only of alternative S-3A, it applies to every soil alternative where waste is left in place. It doesn't add any requirements to the soil alternatives where it is present. 	<ul style="list-style-type: none"> • Agree. Alternative S-3A will be re-named, “Shallow Excavation, Off-site Disposal, Cover, and LUCs”. The WMA concept will be introduced and defined at the beginning of the Soil Alternatives discussion.
48	11	Bullet Groundwater Alternative G-3, G-4, G-5	<ul style="list-style-type: none"> • High concentration area not shown on Figure 4. Add. 	<ul style="list-style-type: none"> • Agree. The “high concentration” area will be depicted on Figure 2 or a new figure will be added depicting the requested information.
49	11	Bullet Groundwater Alternative G-3A	<ul style="list-style-type: none"> • Source area not shown on Figure 4. Add. 	<ul style="list-style-type: none"> • Figure 4 is titled: Relevant Site 16 Boundaries. It is not intended to depict source areas. Also, per previous discussions with EPA, there are <i>multiple</i> source areas contributing to the groundwater contamination observed at Site 16. However, the primary source areas do appear

Comment Number	Page	Location	Comment	Response to Comment
				to be associated with the former Bldg 41. Thus, an informational tag will be added to the referenced figure, indicating that the former Bldg 41 is a primary source area.
50	11	Alternative S-2	<ul style="list-style-type: none"> Recommend revising first sentence to: "Alternative S-2 applies to selected areas in the NCA where contaminant concentrations exceed industrial cleanup levels. The alternative involves covering these areas with a 2-foot-thick cover of clean soil obtained from an off-site location. This will prevent unacceptable exposure to the underlying contaminated surface and subsurface soil." Describe the low permeability cover (e.g. clay or liner) 	<ul style="list-style-type: none"> Agree. "..... such as clay or a liner."
51	11	Alternative S-2 (second column)	<ul style="list-style-type: none"> Recommend revising last sentence to "...LUCs that would allow recreational use but prohibit residential use..." As the sentence currently reads, it is unclear whether the term "restrict" means <i>prevent</i> or <i>exclude to only</i>. 	<ul style="list-style-type: none"> Recommended language: LUCs would be implemented to maintain the 2 feet of clean soil cover in the Marina Building area, and to prevent the unauthorized excavation and/or disposal of soils below 2 feet bgs

Comment Number	Page	Location	Comment	Response to Comment
52	11	Alternative S-3 AND Alternatives where same text is used	<ul style="list-style-type: none"> • Need better description of the word “deeper” in the 3rd sentence (i.e.; saturated). • Recommend revising last sentence to “...LUCs that would allow recreational use but prohibit residential use...” As the sentence currently reads, it is unclear whether the term “restrict” means <i>prevent</i> or <i>exclude to only</i>. • Change “..unauthorized excavation and/or disposal of soils below 2 feet bgs.” to “...unauthorized soil excavation or soil disposal or both below 2 feet bgs.” 	<ul style="list-style-type: none"> • The word “deeper” will be qualified (i.e., “at a depth greater than 2 feet”). • Please see response to EPA Comment No. 51. • Sentence will be modified to state, “prevent unauthorized excavation or disposal of soils below 2 feet bgs.”
53	11	Alternative S-3A AND Alternative where same text is used	<ul style="list-style-type: none"> • Add the word “Cover” to the title- it should replace the words “waste management area” since covers are an integral part of this remedy that distinguishes it from other alternatives. A WMA is included in other alternatives, but hasn’t been included in the title. Please remove these words (WMA) from this title. • Take the third sentence and move it to a new paragraph to discuss the Marina area. <ul style="list-style-type: none"> ○ Change the text of the marina paragraph to “LUCs would be implemented to permit the continued use of the area as a marina or other recreational use, while preventing disturbance of the cover and prevent the unauthorized excavation and/or disposal of contaminated soils below 2 feet bgs. Long-term monitoring would be required that includes at 	<ul style="list-style-type: none"> • Please see Navy response to EPA Comment No. 47. Also, please note that a “cover” is a “component” of several other alternatives. It is not unique to S-3A. • Agree that the third sentence can be moved.

Comment Number	Page	Location	Comment	Response to Comment
			<p>least yearly inspections to determine whether that LUCs were being complied with and that components of the remedy, particularly the cover, were not disturbed. Groundwater and/or sediment/surface water monitoring would be conducted to ensure underlying contamination is not migrating from the covered area to Allen Harbor. Long-term maintenance would be implemented to maintain the 2-foot of clean soil cover and other components of the remedy.</p> <ul style="list-style-type: none"> Remove the fourth sentence. Replace the fifth and sixth sentences with: “LUCs would be implemented to prevent residential use of all areas exceeding residential risk levels, outside of an area around Building E-107, discussed below. In areas where there is a cover installed, the LUCs would also prevent disturbance of the cover and other components of the remedy, as well as preventing the unauthorized excavation and/or disposal of soils below 2 feet bgs. Long-term monitoring and maintenance would also be required that 	<ul style="list-style-type: none"> Clarification. It is anticipated that surface water/sediment sampling would only be conducted if the groundwater/piezometer sampling indicated that it was necessary. So, Navy would sample these media only as necessary. Agree. The WMA should be mentioned as a common element at the start of the section. Agree, However, the phrase, “In areas where there is a cover installed..”, will be deleted as it is not necessary. The phrase “cover area” should be replaced

Comment Number	Page	Location	Comment	Response to Comment
			includes inspections and any required maintenance of the cover, as well as groundwater and/or sediment/surface water monitoring to ensure underlying contamination is not migrating from the cover area to Allen Harbor or Narragansett Bay. At least yearly compliance monitoring would ensure LUCs were being complied with.”	<ul style="list-style-type: none"> • with WMA.
54	12	Figure 3	<ul style="list-style-type: none"> • Need clearer, thicker boundary lines. Recommend removing segmented proposed excavation area; just outline the entire proposed excavation area and also label it “Boundary of soil cover”. Remove or include in the legend, the yellow outline with no legend definition. Need dock legend or place dock text over dock outline. Generally difficult figure to quickly make sense of. • Add a line to show the boundary of the groundwater restricted area. 	<ul style="list-style-type: none"> • Agree. All suggested modifications to the figure will be made. • Agree.
55	13	Figure 4	<ul style="list-style-type: none"> • Add legend • The figure should be labeled Soil Alternatives S-2, S-3, S-3A, S-4 & S-6 since there is no soil LUC boundary for either Alternatives S-1 or S-5. • Improve line contrast between soil Cover boundary and Soil LUC boundary. • Instead of a WMA boundary show the extent 	<ul style="list-style-type: none"> • Agree. However, please note that all acronyms and demarcations have been defined. A legend is somewhat redundant. • The “Soil LUC Boundary” tag will be annotated to read, “WMA and Soil LUC Boundary for Alternatives S-2, S-3, S-3A S-4, and S-6”. • The “WMA Boundary” will be made more distinct from the “Soil LUC Boundary”. • Disagree. The designation of the WMA

Comment Number	Page	Location	Comment	Response to Comment
			<p>of the Soil Cover Areas.</p> <ul style="list-style-type: none"> • Soil Cover Areas should include the area to be excavated & covered at the Marina since that area has waste being managed in place also. • Define differing clean up areas per Groundwater Alternatives bullets on Page 11 (define “high-concentration areas,” “east end of Former Building 41,” and “source area.” In particular, identify where cover areas are proposed. 	<p>boundary is the important point. Depicting the soil covers for <i>all</i> alternatives is not required or desirable. However, the excavation outlines of the preferred alternative will be added.</p> <ul style="list-style-type: none"> • An informational tag will be added to the figure indicating that the reader should consult the Figure 3 regarding the Marina area. • The requested information regarding the groundwater alternatives will be added to Figure 2 or on a new, separate figure. Also, see response presented in the 4th bullet (above).
<p>EPA Follow-up Comment No. 55, Page 13, Figure 4: Regarding the fourth bullet - the figure should show the extent of areas that will be restricted by soil covers for each alternative (assuming they are different for the different alternatives). This will show the public (particularly potential stakeholders who might have an interest in knowing the extent of restricted soil covers under each alternative) the extent of the restrictions under each of the alternatives.</p> <p>Navy Response to EPA Follow-up Comment No. 55: <i>Respectfully disagree. While this would provide interesting details regarding alternatives not selected as the preferred alternative, the requested detail does not provide any truly useful information to potential stakeholders interested in land use issues or development at Site 16. What is ultimately useful to the potential stakeholder are the facts that subsurface excavation across the entire NCA will be prohibited (without approval of Navy/EPA/RIDEM) because of the subsurface debris AND surface soils across the NCA should be maintained because of the subsurface debris and because subsurface chemical concentrations in some areas exceed industrial clean-up levels AND residential land use is prohibited. All of these issues are clearly addressed in the PP. Also, drawings showing the specific boundaries for each LUC will be prepared as part of the LUC RD.</i></p>				

Comment Number	Page	Location	Comment	Response to Comment
56	14	Alternative S-4	<ul style="list-style-type: none"> What is the intent of using the word “balance” in the 2nd sentence? Recommend different description here. 	<ul style="list-style-type: none"> Balance, as in, “what is left over”. The text will be modified to use the word “remainder”.
57	14	Alternative S-5	<ul style="list-style-type: none"> In the second sentence, change “offsite” to “off-site” for consistency. After “excavated” insert “to achieve residential-exposure-based and leachability-based soil clean-up levels,” 	<ul style="list-style-type: none"> Agree. The suggested change will be made. Agree.
58	14	Alternative S-5	<ul style="list-style-type: none"> Add a figure showing the components and extent of Soil alternative S-5. 	<ul style="list-style-type: none"> Disagree. A separate figure depicting this alternative (which was not selected as the preferred alternative) is not necessary or prudent.
EPA Follow-up Comment No. 58, Page 14, Alternative S-5: See previous response, regarding showing the public how much land will be restricted under the different alternatives.				
Navy Response to EPA Follow-up Comment No. 58: Please see Navy response to EPA Follow-up Comment No. 55.				
59	14	Alternative S-6	<ul style="list-style-type: none"> 1st sentence, change “...soil cover over the full extent of the entire NCA...” to “...soil cover over the NCA...” 3rd sentence, add contaminant before migration 	<ul style="list-style-type: none"> The reference text will be modified to read, “.. soil cover over the entire NCA.” Agree. The suggested change will be made.
60	14	Alternative G-1	<ul style="list-style-type: none"> 1st sentence, change “...in order to...” to “...to...” 	<ul style="list-style-type: none"> Agree. The suggested change will be made.
61	14	Alternative G-2 AND Alternatives were same text used	<ul style="list-style-type: none"> Text should discuss “Performance Standards” applicable within wma established under the appropriate soil alternatives. 3rd sentence, describe the type of use that the groundwater LUC prevents. 	<ul style="list-style-type: none"> Agree. This term will also be added to the glossary. The referenced text will be modified to state

Comment Number	Page	Location	Comment	Response to Comment
			<ul style="list-style-type: none"> The text should discuss whether the alternative can only be paired with Soil Alternatives S-2, S-3, S-3A, S-4, S-6 (otherwise if Alt. S-5 is chosen this groundwater alternative would need to meet groundwater cleanup standards throughout the site). The text needs to identify how long MNA is expected to take to achieve groundwater cleanup standards outside of the wma compliance boundary for the various soil alternative with an wma and for throughout the site under Alternatives S-1 and S-5. The text should clarify that LUCs would be permanent within the compliance boundary of any wma established under the various soil alternatives with a wma and temporary outside of the compliance boundary and for the entire Site for Alternative S-5 for the period it takes to achieve groundwater cleanup standards. 	<p>that all groundwater uses would be prohibited, except for routine sampling.</p> <ul style="list-style-type: none"> Agree. A similar comment was received on the FSA. Per BCT discussions on June 11, 2013, this discussion will be brief. Agree. The PP will be updated accordingly. A general observation will be added to the text regarding this issue. However, the importance of the distinction is somewhat obscure. Once remedial goals are met, LUCs can be lifted. Even under the WMA scenario, remedial goals will eventually be met via natural attenuation.
<p>EPA Follow-up Comment No. 61, Page 14, Alternative G-2 AND Alternatives were same text used: Regarding the fifth bullet, LUC will need to be left in place as long as soil, as well as groundwater, exceeds CERCLA risk standards. There's no discussion in FS that the soil is naturally attenuating, so the assumption is the soil alternative that leave waste in place are permanent.</p> <p>Navy Response to EPA Follow-up Comment No. 64: Comment acknowledged. As noted in the original Navy response, a general observation will be added to the PP clarifying this issue.</p>				

Comment Number	Page	Location	Comment	Response to Comment
62	14	Alternative G-3 AND Alternative where same text used	<ul style="list-style-type: none"> The same analysis discussed above for G-2 needs to be applied how this groundwater alternative would work paired the various soil alternatives with and without a wma. Provide a Figure showing 1,000 ug/l TCE contour 3rd sentence, add groundwater between routine and sampling. 5th sentence, add text to generally describe construction methods that prevent unacceptable vapor intrusion (e.g. vapor barrier). 	<ul style="list-style-type: none"> Please see response to preceding comment. Please see preceding responses to comments on figures. Agree. The suggested change will be made for all occurrences. The phrase, “such as a vapor barrier”, will be added to the referenced text.
63	14	Alternative G-3A	<ul style="list-style-type: none"> The same analysis discussed above for G-2 needs to be applied how this groundwater alternative would work paired with the soil alternatives with or without a wma. Show on figure “source areas near former Building 41” where injections are planned. Show on figure “area down gradient of treatment area” where MNA would be monitored by a routine groundwater sampling program. 	<ul style="list-style-type: none"> Please see Navy responses to EPA Comment No. 61. Please see Navy responses to previous EPA comments on figures. Please see Navy responses to previous EPA comments on figures.
64	15	Alternative G-5	<ul style="list-style-type: none"> 1st sentence, change “...extraction and treatment...” to “...extraction and above-ground treatment...” The same analysis discussed above for G-2 needs to be applied how this groundwater alternative would work paired with the soil 	<ul style="list-style-type: none"> Disagree. If the water is extracted, it is above ground and the suggested wording is redundant. Please see Navy response to EPA Comment No. 61.

Comment Number	Page	Location	Comment	Response to Comment
			alternatives with or without a wma.	
<p>EPA Follow-up Comment No. 64, Page 15, Alternative G-5: Regarding the first bullet, the comment was made because an alternative could be extraction with no treatment, just off-site disposal.</p> <p><i>Navy Response to EPA Follow-up Comment No. 64: Perhaps “extraction and on-site treatment” would be the most appropriate wording. The text will be updated accordingly. The phrase “extraction and treatment” (the original text) eliminates the possibility “extraction with no treatment, just off-site disposal”, particularly if one continues to read the rest of the sentence and the rest of the paragraph.</i></p>				
65	15	Alternative G-6	<ul style="list-style-type: none"> The same analysis discussed above for G-2 needs to be applied how this groundwater alternative would work paired with the soil alternatives with or without a wma. Use consistent term to describe “biological degradation” vs. “biodegradation” Change last sentence to “Because carbon source injections would occur over a larger area compared to other injection alternatives, faster groundwater remediation is expected with this alternative.” 	<ul style="list-style-type: none"> Please see Navy response to EPA Comment No. 61. The phrase “biological degradation” is defined in the glossary. The text will be edited to this terminology. The referenced text will state that groundwater remediation will be accomplished in a shorter time under this alternative.
66	15	Preferred Alternative	<ul style="list-style-type: none"> Add a figure showing the preferred alternative. The Proposed Plan needs to clearly identify in the text and in a figure which properties are still owned by the Navy and which properties are no longer Navy owned, as well as LUC requirements that will need to be established on non-Navy property. The owners of the non-Navy property within the Site need to be directly notified of the issuance of the Proposed Plan and their 	<ul style="list-style-type: none"> Agree. But, this seems redundant with that already provided in text/figures. One of the figures in the PP will be modified to distinguish Navy property from non-Navy property. The text will state that the LUCs apply to the property, regardless. The current owners of the non-Navy property are routinely copied on all reports/correspondence for NCBC Davisville, and they have been on the distribution list for the PP.

Comment Number	Page	Location	Comment	Response to Comment
			<p>opportunity to comment.</p> <ul style="list-style-type: none"> 2nd sentence, add “currently” between “is” and “required”, since navy is proposing a contingency remedy in case the contaminant migration from the NCA increases and causes a risk to the environment in Allen Harbor. Add a section since, based what the ARARs table in the FS states for S-3A, in the Proposed Plan: “The Navy will solicit public comment as part of the proposed plan on the measures taken through the remedial action to protect floodplain and wetland resources.” Specifically add that the covers will be installed and maintained to prevent any release of contamination that would impair federal floodplain (prevent washout in a 100 year storm event) or wetland resources. 	<ul style="list-style-type: none"> The referenced text will state, “Based on existing/current conditions, no remedial action is required for surface water or sediment.” Agree.
67	15	2 nd bullet	<ul style="list-style-type: none"> Residential standards are also exceeded in the NCA area, but will be addressed through LUCs. In the marina area the exceedances will be addressed through a combination of excavation and off-site disposal of the surface 2 feet of contaminated soil and LUCs to prevent exposure to subsurface soils exceeding unrestricted use standards below 2 feet. Please add. 	<ul style="list-style-type: none"> The bulleted text under the Preferred Alternative is not intended to repeat the alternative previously described. The bullets are intended to provide the rationale for the selection of the alternative. However, this comment/suggested wording (and several below) suggest that a concise summary of the recommended alternatives (and important components) should also be added here. The

Comment Number	Page	Location	Comment	Response to Comment
				Navy agrees.
68	16	Exhibit 3	<ul style="list-style-type: none"> • Number the 9 criteria. • Add at the end of the “Community Acceptance” criterion “The Navy will respond to the public’s comments on the Proposed Plan in a Responsiveness Summary the will be part of the final Record of Decision.” 	<ul style="list-style-type: none"> • Agree. • Disagree. The requested text is already presented on page 19.
69	16	Soil Alternative S-3A	<ul style="list-style-type: none"> • Add a new 1st bullet: “Two foot soil covers will be maintained and monitored to ensure underlying contaminated soil is not disturbed and that contamination is not migrating from the covered areas to Allen Harbor and Narragansett Bay.” • Change the text of the 1st bullet to: “LUCs will permit restricted recreational use in the Marina area and prevent residential development in the NCA area. There will be at least yearly compliance monitoring of LUCs and five-year reviews will be conducted to assess the protectiveness of the remedy since contamination is being left in place.” 	<ul style="list-style-type: none"> • The text for S-3A (at the bottom of page 15 and top of page 16) was not intended to repeat the details of S-3A; it was intended to provide the rationale for the recommendation. The details of S-3A (such as those suggested by the reviewer) are found on page 11. However, please also see Navy response to EPA Comment No. 67.
70	16	Groundwater Alternative G3-B	<ul style="list-style-type: none"> • New 1st bullet: “This alternative is paired with Soil Alternative S-3A , which creates a waste management area has a groundwater compliance boundary established around it. Groundwater outside of the compliance boundary needs to attain federal drinking water standards over time through treatment and MNA, while inside the compliance boundary contaminated groundwater is only 	<ul style="list-style-type: none"> • The referenced text is not intended to repeat the details of G3-B (found on page 14). The text at this point of the PP should be summary level only. However, please also see Navy response to EPA Comment No. 67 which indicates that a concise summary of the recommended alternative (and important components) will be provided.

Comment Number	Page	Location	Comment	Response to Comment
			<p>required to be monitored to ensure it is not migrating and causing harm to Allen Harbor, Narragansett Bay, or surrounding areas of uncontaminated groundwater.”</p> <ul style="list-style-type: none"> • Replace the first bullet with: “LUCs will prevent exposure to contaminated groundwater outside of the compliance boundary until groundwater cleanup standards are attained. The LUCs will permanently prevent exposure to groundwater inside of the compliance boundary. • Remove the second bullet. • In the 3rd bullet after “Allen Harbor” insert “and Narragansett Bay” and insert “currently” after “does not.” • In the 4th bullet, it is unclear why the phrase “permanently and irreversibly” added to this description when the same is true of other alternatives. Such colorful text could be interpreted by general readers as a benefit unique to this alternative, but to a technical audience it comes across as a slight bias rather than possibly intended emphasis. • In the fifth bullet replace the second sentence with: “Under this alternative groundwater outside of the compliance boundary is calculated to take approximately 100 years to attain drinking water standards, compared to 300 years from the MNA only alternative 	<ul style="list-style-type: none"> • The detailed text under the “Description of Groundwater Alternatives” will be reviewed and edited to assure this information is incorporated. The word “permanently” (in the second sentence) is not necessary. The groundwater will eventually achieve remedial goals through MNA. • Disagree, the second bullet will be retained. The information presented is a simple statement of facts. • Agree. • Disagree. Similar language appears in the EPA guidance documents. However, for purposes of completeness, the same text will be added to the text for G-3, G-3A, and G-4/5. • Agree.

Comment Number	Page	Location	Comment	Response to Comment
			G-2.”	
71	17	Alternative S-5	<ul style="list-style-type: none"> Change criterion 4 to the “does Not meet” symbol 	<ul style="list-style-type: none"> Agree.
72	17	Costs	<ul style="list-style-type: none"> Where are groundwater and/or sediment/surface water monitoring, as well as yearly LUC compliance monitoring, included in the costs? Add a footnote if the costs are incorporated into the monitoring for Alt. G-3B. 	<ul style="list-style-type: none"> Agree.
73	17	Assumed Duration	<ul style="list-style-type: none"> Add footnote describing method/rationale behind assumption 	<ul style="list-style-type: none"> Agree. The 30-year time frame for the NPW is that suggested by the EPA guidance documents.
74	17	Modifying Criteria	<ul style="list-style-type: none"> Remove the two empty cells 	<ul style="list-style-type: none"> Agree.
75	17	Community Acceptance	<ul style="list-style-type: none"> Replace “feasibility study and” with “the.” 	<ul style="list-style-type: none"> Agree.
76	17	Notes	<ul style="list-style-type: none"> Change “Criteria” to “Criterion.” 	<ul style="list-style-type: none"> Agree.
77	18	Line 4	<ul style="list-style-type: none"> Change the symbols for G-1 to “Does Not Meet Criterion.” 	<ul style="list-style-type: none"> Agree.
78	18	Modifying Criteria	<ul style="list-style-type: none"> Remove the two empty cells 	<ul style="list-style-type: none"> Agree.
79	18	Community Acceptance	<ul style="list-style-type: none"> Replace “feasibility study and” with “the.” 	<ul style="list-style-type: none"> Agree.
80	18	Assumed Duration	<ul style="list-style-type: none"> Add footnote describing method/rationale behind assumption 	<ul style="list-style-type: none"> Agree. The reader will be referred to the FS/FSA for details regarding the determination of the assumed duration.
81	18	Notes	<ul style="list-style-type: none"> Change “Criteria” to “Criterion.” 	<ul style="list-style-type: none"> Agree.
82	19	4 th Paragraph	<ul style="list-style-type: none"> After “on-line” insert “(see second column).” 	<ul style="list-style-type: none"> Agree. The suggested change will be made.
83	19 & 20	Glossary of Terms	<ul style="list-style-type: none"> The definition of Background should include anthropogenic background also 	<ul style="list-style-type: none"> Agree. The definition will state that background also includes anthropogenic

Comment Number	Page	Location	Comment	Response to Comment
			<p>(man-made contaminants in the area from non-Navy sources)</p> <ul style="list-style-type: none"> • Add Feasibility Study Addendum 	<p>background (man-made contaminants present in the environment as a consequence of non-Navy sources).</p> <ul style="list-style-type: none"> • Agree. The definition for the Feasibility Study Addendum will state that the Addendum presents the evaluation of additional remedial alternatives for both soil and groundwater that were considered after the publication of the final Feasibility Study for Site 16.

ENCLOSURE 2

Attachment A:

USEPA/RIDEM Comments Correspondence and E-mails

ATTACHMENT A

**USEPA Region I and RIDEM Comments and
Follow-Up Comments on NCBC Davisville Site 16
Feasibility Study Addendum and
Proposed Plan Documents
Dated March 2013**



EPA-FSA-5.6.13

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION I
5 POST OFFICE SQUARE, SUITE 100 (OSRR 07-03)
BOSTON, MASSACHUSETTS 02109-3912

May 6, 2013

Jeff Dale, Dept of the Navy, BRAC PMO Northeast
Code 5090 BPMO NE/JD, 4911 South Broad St
Philadelphia, PA 19112-1303

Re: *"Draft Feasibility Study Addendum for Installation Restoration Program Site 16 for former Naval Construction Battalion Center, North Kingstown, Rhode Island"*, dated March 2013, North Kingstown Rhode Island

Dear Mr. Dale:

Pursuant to § 7.6 of the Davisville Naval Construction Battalion Center Federal Facility Agreement dated March 23, 1992, as amended (FFA), the Environmental Protection Agency has reviewed the subject document and comments are below.

GENERAL COMMENTS

1. The text of this Addendum should specify that based on further Site evaluation, including the forensic study of Allen Harbor sediments, it was determined that sediment (although evaluated in the risk assessments and in the Feasibility Study) was not a media of concern for the CERCLA remedy because sediment contamination was not found to be site-related and does not exceed local anthropogenic background levels. Therefore, there are no sediment COPCs.
2. There are "cleanup levels" for groundwater and soil outside of the waste management area compliance boundary and "performance standards" (for monitoring) for groundwater and soil leachability inside of the compliance boundary.
3. The text of this Addendum should specify that based on re-evaluating site conditions and regulatory requirements the number and variety of soil alternatives carried forward in the Feasibility Study Addendum have been reduced to just Alternatives S-1 and S-5, along with adding Soil Alternative S-3A. Soil Alternatives S-2, S-3, S-4 and S-6 from the Feasibility Study were not re-evaluated based on the standards and conditions for soil discussed in the FS Addendum. If the Navy prefers to keep the discussion of all of the alternatives, the evaluation should group those soil alternatives that manage waste in place and those that don't.
4. Under Soil Alternatives S-1 and S-5 there is no management of soil contamination in place and therefore no waste management area. Under these soil alternatives all of the groundwater alternatives need to achieve drinking water standards and soil needs to achieve leachability standards throughout the Site (the NCP analysis should show that Soil Alternative S-1 fails to meet the leachability standards, while S-5 can achieve them). Under Soil Alternative S-3A (and the other alternatives that have a wma) contaminated soil is managed in place, therefore all of the groundwater alternatives need to achieve drinking water standards outside of the compliance boundary for the waste management area (except where the boundary abuts salt water). Therefore, there are two sets of NCP analysis needed for each groundwater alternative, including different calculations for how long MNA will take to achieve final groundwater cleanup levels, depending on whether the standards need to be met for the entire Site or just for outside of the compliance boundary for the wma.

5. For groundwater alternative pairings with Soil Alternatives S-1 and S-5 there are just groundwater cleanup standards (as Chemical-specific ARARs). For groundwater alternative pairings with Soil Alternative S-3A (and other soil alternatives that manage waste in place) there are cleanup standards (as Chemical-specific ARARs) for outside of the wma compliance boundary and performance standards (as Action-specific ARARs to establish monitoring standards) for inside of the compliance boundary. Regarding soil leachability requirements, Soil Alternatives S-1 and S-5 have soil cleanup standards, based on leachability standards as Chemical-specific ARARs. For Soil Alternative S-3A the leachability standards are Action-specific ARARs that establish performance standards for monitoring at the compliance boundary.
6. Incorporate into the FSA text comments EPA has made to the draft Proposed Plan on May 6, 2013.

SPECIFIC COMMENTS

7. Page 1-1, §1.1.1 – In the last sentence insert “modifies and” before “supplements.”
8. Page 1-1, §1.1.2 – Section 1 also should discuss the sections of the FS not carried forward into the FSA (specifically all discussion of sediment as a media of concern and Soil Alternatives S-2, S-3, S-4, and S-6 – see General Comments, above).
9. Page 1-3, §1.3 – Either add a discussion of the changes from the FS (see general comments above) to this section or make the “FSA Changes from the FS” as a new §1.4 (including listing only the alternatives carried forward into the FSA) and remove the current §1.4 text.
10. Page 2-1, §2.2.1 – Incorporate EPA comments concerning the Soil RAOs to the draft Proposed Plan.
11. Page 2-1, §2.2.2 – Incorporate EPA comments concerning the Groundwater RAOs to the draft Proposed Plan.
12. Page 3.1, §3.1 – Change the name of S-3A to “Excavation, Off-site Disposal, Soil Cover, Monitoring, LUCs, and Five-Year Review.”
13. Page 3.1, §3.1.1 – Change Component 3 to “Maintain a two foot thick permeable soil cover over areas of contaminated subsurface soil”.

Add a Monitoring Component.

Component 1 – For the NCA area the volume of contaminated soil to be excavated is identified, but in the Marina area the volume of specific contaminants to be removed is cited. Use a consistent description for both areas (either soil volume, contaminant volume or both).

14. Page 3.2, §3.1.1 – Change title of Component 3 to “Maintain a two foot thick soil cover over areas of contaminated subsurface soil in the NCA and Marina areas”.

Add a new first paragraph that states: “The two foot thick layer of clean soil cover installed after the excavation of the NCA and Marina areas will be maintained to prevent direct contact with contaminated subsurface soils.

In the first sentence of the present first paragraph, change “WMA” to “waste management area (WMA).”

In the second sentence, change "boundary" to "extent of the soil cover and compliance boundary." In the last sentence after "performance standards" add: "for monitoring at the compliance boundary of the WMA. In addition, Rhode Island soil leachability standards are also performance standards for monitoring at the WMA compliance boundary, but are not required to be achieved within the compliance boundary."

15. Page 3-2, §3.1.1 – Add a new Component 4: "Component 4: Monitoring Monitoring will be established at the wma compliance boundary to ensure contaminated groundwater exceeding performance standards is not migrating beyond the compliance boundary either into areas of adjacent groundwater or into marine sediments and surface water in Allen Harbor or Narragansett Bay. Compliance monitoring will be conducted at least yearly to ensure the LUCs, described below, remain in effect and are enforced."
16. Page 3-2, §3.1.1 – For the current Component 4 change the text to: "LUCs would be implemented to control excavation and disturbance of the two foot thick soil cover in the NCA and Marina areas and prevent exposure of the contaminated soil below the cover. In the event work is required below any cover areas, any work within the contaminated subsoil would need to be performed according to a health and safety plan and an approved soil management plan. LUCs would be established to prevent residential development within areas of the NCA exceeding unrestricted use risk standards. Within the Marina area LUCs would be implemented to permit the continued use of the area as a marina or other recreational use, as long as the two foot thick clean cover is maintained. The LUCs would also establish a requirement that any work beneath marina building foundations would need to be performed according to a health and safety plan and an approved soil management plan."
17. Page 3-2, §3.1.1 – Before the second paragraph of the current Component 4 insert: "Component 6: 5-Year Review"
18. Page 3-3, §3.1.2 – Change the beginning of the first sentence of the second paragraph to: "Maintenance of the two foot thick clean cover, monitoring and LUCs regulating the protection of the cover and the."

Change the last two sentences to: "Maintenance of the two foot thick clean cover, monitoring and LUCs in the Marina area will permit the continued use of the area as a marina or other recreational use by preventing exposure to contaminated subsoils. Soil Alternative S-3A will achieve all Soil RAOs."
19. Page 3-5, 2nd ¶ – The last sentence states that some property within the remediation area for soil has been transferred. Navy needs to identify how it will establish LUCs on property it no longer owns (for example, if the Navy needs to purchase an easement the cost of the easement needs to be included in the projected cost for the alternative).
20. Page 3-5, Cost – See previous comment concerning including the cost of any potential LUC easement that may be required on property the Navy no longer owns in the cost of the alternative.
21. Page 3-5, §3.2 – As previously discussed, the analysis for Groundwater Alternative G-3B needs to take into account that it might be paired with either soil alternatives that don't manage waste in place (S-1 or S-5), in which case the alternative needs to achieve drinking water standards throughout the Site, or with soil alternatives (S-2, S-3, S-3A, S-4, S-6) which does manage waste in place (where groundwater only would need to achieve drinking water standards outside of the compliance boundary of the waste management area).

22. Page 3-5, Component 1 – The current text is written to address if this groundwater alternative is paired with Soil Alternative S-3A (as noted, above there also has to be a discussion whether Alternative G-3B could achieve groundwater cleanup standards throughout the Site Soil Alternative S-5 is selected. Regarding the current text, the text analysis needs to be revised because the waste management areas include all areas of the NCA and Marina areas where subsurface contamination is left in place under a soil cover.
23. Page 3-6, Component 2 – Need to discuss how long MNA will take after treatment under circumstances where there is a wma (such as Soil Alternative S-3A) or not (Soil Alternative S-5).
24. Page 3-7, component 2 – Regarding the second sentence of the fourth paragraph, the text states that remedial goals for sediment and soil will be determined during remedial design, however that is not accurate. Instead, a new third Component – “Monitoring” should be added. The Monitoring component should address the remedial measures (monitoring) to be taken along the saline shoreline to meet the groundwater RAO to prevent migration of groundwater contamination into sediments/surface water in Allen Harbor and Narragansett Bay. The basis (either ARAR or TBCs) for the Performance Standards for the monitoring need to be included in the FS. When paired with Soil Alternative S-3A the performance standards would be based both risk-based standards and soil leachability standards. When this groundwater alternative is paired with Soil Alternative S-5 the performance standards would only be based on risk-based standards (since all soil exceeding leachability standards would be removed under Soil Alternative S-5).

The remedial goals protective of ecological receptors in porewater, surface water, and sediment will be determined during the remedial design. Please include porewater.

25. Page 3-7, component 3 – The Navy needs to acquire legally enforceable environmental LUCs on property it no longer owns. It can't rely on non-CERCLA land use controls, since these potentially could be changed at some future time and the Navy would have no basis to prevent the change (unless a CERCLA restriction is in place). The Navy also needs to be able to take an enforcement action if there are violations of LUCs outside of current Navy property.
26. Page 3-8, component 3 – Regarding the first paragraph, the Navy needs to discuss how it will establish enforceable LUCs on property it currently owns up to the point the property is eventually transferred.

When paired with Soil Alternative S-3A the LUCs would be permanent within the compliance boundary and temporary under groundwater cleanup standards are achieved outside of the compliance boundary. When paired with Soil Alternative S-5, the LUCs are temporary throughout the Site until federal drinking water standards are achieved throughout the Site (except in any saline areas).

The fifth paragraph needs to be split off and included under a new “Component 5: 5-Year Review.”

27. Page 3-8, Contingency Remedy – the concept of a contingency remedy is not discussed in the Proposed Plan. It also is not figured into the NCP 9 criteria analysis for Groundwater Alternative G-3B. Therefore, if the selected remedy fails this contingency remedy will need to go through the FS, PP, & ROD Amendment process.
28. Page 3-9, please see the following comments on appendix e. Ecological trigger values are to be

scientifically defensible for the porewater not surface water as we comment below.

29. Page 3-10, § 3.2.2 – Regarding the third paragraph, LUCs will be protective as long as enforceable CERCLA restrictions can be established on both Navy and non-Navy property within the groundwater restriction area.
30. Page 3-12, Implementability – Regarding the second paragraph, the Navy needs to identify how it will establish LUCs on property it no longer owns (for example, if the Navy needs to purchase an easement the cost of the easement needs to be included in the projected cost for the alternative).
31. Page 3-5, Cost – See previous comment concerning including the cost of any potential LUC easement that may be required on property the Navy no longer owns in the cost of the alternative.
32. Tables 3-1, 3-2, and 3-3 – Change the title of Soil Alternative S-3A to “Excavation, Off-site Disposal, Soil Cover, Monitoring, LUCs, and Five-Year Review.”
33. Table 3-1 – For all of the Action to be Taken text, in the last sentence after “excavation,” insert “maintenance of soil covers,”
34. Table 3-1, p. 3 – Modify the Remediation Regulation citation as follows:

State of Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	DEM-DSR-01-93, Section 8.02(A) & Table 1	Applicable	These regulations set remediation standards to prevent direct contact with contaminated soil resulting from the unpermitted release of hazardous material in Rhode Island.	<p>In the NCA area excavation of the top two feet of contaminated soil exceeding industrial direct exposure criteria, maintenance of a clean 2 foot cover, LUCs to protect the cover and prevent exposure to subsurface soils, and monitoring will meet Industrial exposure standards. LUCs to prevent residential use in the NCA area will address remaining areas that exceed unrestricted use criteria for direct contact.</p> <p>In the Marina area excavation of the top two feet of contaminated soil exceeding criteria for recreational use, maintenance of a clean 2 foot cover, LUCs to protect the cover and prevent exposure to subsurface soils under the cover and marina buildings, and monitoring will achieve standards to permit continued recreational use of the Marina area.</p>
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35. Table 3-1, p. 4 - remove the last two entries.
36. Table 3-2, p. 1 – For the Federal Endangered Species Act, in the Action to be Taken text need to add the federally-listed Atlantic Sturgeon.
37. Table 3-2, p. 2 – Navy can remove the State ESA because the State habitat for the two sea turtles is off-shore of Narragansett Bay and the Least Tern is not a listed species.

38. Table 3-3, p. 2 – Modify the citation for the RI Remediation Regulations as follows:

State of Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Short Title: Remediation Regulations)	DEM-DSR-01-93, Section 8.02(B) and Table 2	Applicable	These regulations set remediation standards to prevent leaching of soil contaminants into groundwater and sediment/surface water resulting from the unpermitted release of hazardous material in Rhode Island.	These leachability criteria will be used to develop monitoring standards for groundwater, and sediment/porewater/surface water at the waste management area compliance boundary
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39. Table 3-4, p. 2 – For the two Safe Drinking Water Act citations, in the Action to be Taken text change the second sentence to: “If this alternative is paired the Soil Alternative S-3A then these standards will be used to establish PRGs for groundwater outside of the wma compliance boundary (and used as Action-specific Performance Standards for inside of the compliance boundary). If this alternative is paired with Soil Alternative S-5 these standards will be used to develop PRGs for the entire Site, except where the groundwater is saline.”

40. Table 3-4, p. 3 – For the Remediation Regulations, Action to be Taken text change the third sentence to: “If this alternative is paired the Soil Alternative S-3A then these standards will be used to establish PRGs for groundwater outside of the wma compliance boundary (and used as Action-specific Performance Standards for inside of the compliance boundary). If this alternative is paired with Soil Alternative S-5, these standards will be used to develop PRGs for the entire Site, except where the groundwater is saline.”

41. Table 3-5 - For the Federal Endangered Species Act, in the Action to be Taken text need to add the federally-listed Atlantic Sturgeon.

Add to the federal citations:

Floodplain Management and Protection of Wetlands	44 Code of Federal Regulations (CFR) 9	Relevant and appropriate	FEMA regulations that set forth the policy, procedure and responsibilities to implement and enforce Executive Order 11988, Floodplain Management, and Executive Order 11990, Protection of Wetlands.	Remedial alternatives (such as installation/operation of monitoring/treatment wells) conducted within the 100-year floodplain of Allen Harbor/Narragansett Bay or within federal jurisdictional wetlands will be implemented in compliance with these standards. The Navy will solicit public comment as part of the proposed plan on the measures taken through the remedial action to protect floodplain and wetland resources.
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The State ARARs are applicable for CRM. Please change the status to applicable.

42. Table 3-5, p. 2 – Navy can remove the State Endangered Species Act (ESA) because the State habitat for the two sea turtles is off-shore of Narragansett Bay and the Least Tern is not a listed species.
43. Table 3-6, p. 1 – For the MNA Guidance “Action to be Taken” text state how long MNA (after treatment) is expected to take if this groundwater alternative is paired with Soil Alternative S-3A (compliance outside compliance boundary of an wma) versus with Soil Alternative S-5 (need to achieve groundwater cleanup standards throughout the Site).
44. Table 3-6, p. 1&2 – For the two Safe Drinking Water Act citations, in the Action to be Taken text change the second sentence to: “If this alternative is paired the Soil Alternative S-3A then these standards will be used as Performance Standards for monitoring inside the compliance boundary for the waste management area. If this alternative is paired with Soil Alternative S-5 these standards will be used to monitor groundwater until treatment and MNA have achieved groundwater cleanup standards throughout the Site, except where the groundwater is saline.”

Table 3-6, p. 2 – EPA Groundwater Guidance “Action to be Taken” add at the beginning of the first sentence: “If this groundwater alternative is paired with Soil Alternative S-3A, groundwater...” and add a new last sentence: “If this alternative is paired with Soil Alternative S-5, then this groundwater alternative will achieve groundwater cleanup standards throughout the entire Site, except where the groundwater is saline.”

45. Table 3-6, p. 3 – To the federal citations add citations to whichever federal guidances are used to develop sediment monitoring standards along the shorelines of Allen Harbor and Narragansett Bay, both when this groundwater alternative is paired with Soil Alternatives S-3A and 5 (with a wma and without).
46. Figure 3-1 – Title should be “Excavation and Cover...” (unless the cover area is greater because of subsurface contamination below 2 feet that poses a commercial/industrial risk). The figure should also show the extent of LUCs required to prevent residential use in the NCA area.
47. Figure 3-3 – Show the proposed LUC boundary.
48. Page 4-1, § 4-1 – The WMA is not a remedial component of this alternative (it is an NCP interpretation of where groundwater needs to achieve cleanup standards when waste is managed in place), the remedial component is contaminated soil being covered/managed in place. This section needs to be revised to analyze the cover under the NCP criteria.

If the wma is discussed in this section, it needs to be discussed for all of the soil alternatives where waste is managed in place. If Soil alternatives S-2, S-3, S-4, and S-6 are to be carried forward through the FS Addendum and Proposed Plan, then the wma concept applies to all of them. As previously commented on, since some soil alternatives have waste managed in place and therefore will have groundwater compliance boundary's and some won't the groundwater alternatives need to present how long they will take to achieve their cleanup standards under both circumstances (achieve PRGs only outside of the compliance boundary or throughout the entire Site).

49. Page 4-3, § 4.2.1 – Also describe as a component the LUCs will be required to maintain the cover and prevent disturbance of the underlying contaminated soil.
50. Page 4-4, § 4.2.2 – The detailed NCP criteria analysis also needs to discuss the role of maintenance of

the cover and LUCs for meeting long-term protectiveness and the other criteria.

51. Page 5-1, § 5.1 - Incorporate the above comments and also the comments EPA has made to the Proposed Plan. In particular, note that for the soil alternatives that leave waste in place and that will therefore have a wma, there is no need to address leachability exceedances except for monitoring at the wma compliance boundary. The excavation alternatives that only remove soil to 2 feet and then backfill therefore have cover requirements (so long-term maintenance and monitoring of soil covers need to be added to each alternative).
52. Page 5-2, 2nd ¶ - Replace the paragraph text with "Alternative S-1 will not be protective of human health and the environment."
53. Page 5-3, 1st ¶ - Replace the paragraph text with "Alternative S-1 will no long-term effectiveness or permanence because to CERCLA action will be taken to address soil contamination."
54. Page 5-5, § 5.3 - Incorporate all previous comments to this Addendum and the Proposed Plan. Also that analysis of the alternatives needs to identify how long each alternative will take to achieve groundwater cleanup standards when paired with a Soil Alternative with a wma (groundwater compliance outside of the wma compliance boundary) and when all contaminated soil is removed (groundwater compliance throughout the Site).
55. Table 5-1 - Make changes based on previous comments. In particular, Alternative S-1 does not meet the Protectiveness criterion. Also, the excavation alternatives that only remove soil to 2 feet and then backfill therefore have cover requirements (so long-term maintenance and monitoring of soil covers need to be added to each alternative).
56. Table 5-2 - Make changes based on previous comments. In particular, Alternatives G-1 does not meet the Protectiveness or ARARs criteria. Also the analysis of the other groundwater alternatives need to include two options - paired with the alternatives with a wma and paired with S-5 where there is no wma and groundwater cleanup standards must be achieved throughout the Site.

GENERAL COMMENTS ON APPENDIX E

1. The primary ecological receptor populations include infauna within sediment exposed to porewater, potentially contaminated with COCs. As the pathway for exposure in surface water would be a release from upwelling groundwater COCs, the nearly instantaneous dilution of groundwater makes this exposure pathway (i.e. surface water pathway) likely to be insignificant. The potential for risk from pelagic (water column) organisms or epifauna (at the surface of the sediments) to surface water is low. A discussion of the primary exposure pathways should be provided in the document and justification for elimination of surface water of Allen Harbor as an exposure media (due to near instantaneous dilution at the point of discharge of groundwater) should be included. Subsequent discussion of ecological receptors should focus on those potentially exposed to COCs in porewater and sediments in Allen Harbor from the upwelling of contaminated groundwater.

2. The Navy developed an attenuation factor for the trigger values based on TCE concentrations measured in on-site groundwater wells (namely the MW16-05 cluster) compared to surface water samples collected in Allen Harbor. However, as indicated in General Comment above, there is near instantaneous dilution at the point of discharge of groundwater into the water column in Allen Harbor, and surface water should not be considered as the end point for comparison to groundwater concentrations at this site. Additionally, a comparison of TCE

concentrations measured in on-shore groundwater wells to off-shore piezometer groundwater samples indicates that there is very little attenuation within approximately 40-250 feet from the shoreline. The following table summarizes these data:

Date	2004	2007	2010	Groundwater TCE concentration relatively constant over time periods available?
On-Shore Well MW-16-05 (screen interval):				
Shallow (S)	1 U	0.1 UJ	Not analyzed	Yes
Intermediate (I)	470	650/700	540	Yes
Deep (D)	1,100	1,200	1,200	Yes
Bedrock (R)	860	1,200	Not analyzed	Yes
Allen Harbor Piezometers TW16-AH-:				
05	Not installed	230 J (3-5 feet) 1,110 J (8-10 feet)	Not analyzed	NA (only one event)
06	Not installed	93 J (3-5 feet) 460 (8-10 feet)	Not analyzed	NA (only one event)
07	Not installed	760 J (3-5 feet) 730 J (8-10 feet)	Not analyzed	NA (only one event)
08	Not installed	750 J (3-5 feet) 570 J (8-10 feet)	Not analyzed	NA (only one event)
13	Not installed	Not installed	0.3 U (0-1 feet) 94 (9-10 feet)	NA (only one event)
14	Not installed	Not installed	310 J (0-1 feet)	NA (only one event)
Result	--	Minimal attenuation from on-shore to off-shore groundwater	Minimal attenuation from on-shore to off-shore groundwater	--

A further comparison of TCE concentrations measured in off-shore piezometers to sediment collected in Allen Harbor indicates that total chlorinated VOCs (primarily TCE) are present in the several sediment locations at various sample depth intervals:

- Sediment AH-47 - 886 µg/kg at 0.5 - 1.0 feet (sampled in 2004)
- Sediment SD16-AH-01 - 26.5 µg/kg at 5-6 feet; non-detect at 0-0.5 foot (both sampled in 2007)
- Sediment SD16-AH-03 - 8.5 µg/kg at 3-4 feet (sampled in 2007)
- Sediment SD16-AH-03 - 11 µg/kg at 8-9 feet (sampled in 2007)

Based on these data, ecological receptors may be present where TCE in groundwater discharges into porewater and sediment in Allen Harbor. While it is noted that the 2007 piezometers were screened in Allen Harbor at intervals deeper than where most ecological receptors would be found, in 2010 the data for piezometers screened at 0-1 feet (TW16-AH-13 and TW16-AH-14) indicated the presence of COCs in the shallow depth interval where ecological receptors are present.

In summary, there is little attenuation between on-shore groundwater to off-shore piezometers. Attenuation between piezometers and sediment is minimal depending on depth and date. As such, there is no consistent data set to support the use of an attenuation factor between on-shore groundwater and either off-shore piezometers or sediment. As such, an attenuation factor should not be applied to ecological risk screening levels because the on-shore groundwater concentrations are not consistently or substantially lower in off-shore porewater and sediment samples. Accordingly, the following specific comments need to be addressed in the revision of the trigger value decision process.

APPENDIX E SPECIFIC COMMENTS

1. Page 1, Paragraph 5 and the following bullets. As discussed in General Comments above, the evidence for an attenuation factor of 500:1 or 100:1 is not applicable, as it considered the change in TCE concentrations between on-shore groundwater to off-shore surface water; off-shore surface water is not the ecological pathway end point, and there is no consistent attenuation between on-shore groundwater and off-shore piezometers and sediments. The on-shore groundwater data indicate potential COC concentrations in groundwater near the harbor exceeding the proposed ecological screening levels. The primary receptor populations include infauna within sediment exposed to porewater (e.g. meiofauna, shellfish, worms). As discussed above, exposure of pelagic organisms (plankton, invertebrates and fish) in open water of the harbor should be eliminated as a major ecological exposure pathway. The exposure points are therefore to organisms exposed to sediments and porewater in Allen Harbor resulting from the apparent upwelling of contaminated groundwater.

The decision to evaluate the installation of the bio-barrier should be triggered if the screening values (unadjusted) are exceeded in sentinel wells along the shoreline. If these values are exceeded, then an investigation should be performed to assess potential exceedances in porewater of Allen Harbor sediments. This investigation may be accomplished by either collection of sediment pore water samples, or shallow groundwater from piezometers (0 to 1 ft), representing porewater concentrations. Exceedances of unadjusted ecological screening values (presented in Table 1 of the Navy document) would indicate exposures of receptors above acceptable risk levels, and require The discussion of next steps to possibly include the implementation of the contingency remedy.

2. Page 2, First Bullet (Step 1). It is recommended that Step 1 remains the same, with the trigger levels used, but without "adjusting" trigger levels by any attenuation factor.
3. Page 2, Second Bullet (Step 2). This bullet should include sampling of sediment porewater (or calculation of porewater concentrations from sediment measurements). Alternatively, sampling of shallow piezometers (0-1 ft) may be used to represent sediment porewater concentrations to be compared to trigger values. If data reviewed in Step 2 show exceedances of human health or ecological screening values, then the equivalent of a SLERA screening has already been completed. The second bullet under Step 3 ("Yes") should become the second bullet under Step 2.

4. Page 2, Third Bullet (Step 3). Remove Step 3.
5. Table 1. Please footnote the Human Health and Ecological Screening Levels to direct the reader to the source of these values (Attachment B).
6. Figure 1. Modify Figure 1 to correspond to the changes in Step 2 and removal of Step 3 recommended above.
7. Attachment A, Figure 4-31 - Provide depth interval of collected sediment samples.
8. Attachment B - Support Documentation for Ecological Screening Levels. This document was prepared by TetraTech for the Navy in May 2010. This document uses standard methods and literature for the evaluation of ecological screening criteria for use at NCBC Davisville. The goal of the document was to propose acceptable screening values in marine water. The document recommends using USEPA Region 3 BTAG ESVs as conservative values based on a review of available literature. They remain conservative values to use as ESLs. The Region 3 ESVs have not been updated since July 2006 so no new values are available, and the selected ESVs do not require updating.

If you have any questions with regard to this letter, please contact me at (617) 918-1384.

Sincerely,



Christine A.P. Williams, RPM
Federal Facilities Superfund Section

cc: Richard Gottlieb, RIDEM (via e-mail only)
Joan Taylor, RIDEM
Dave Barney, BEC (via e-mail only)
Johnathan Reiner, ToNK
Steven King, RIEDC
Bill Brandon, EPA (via e-mail only)
Steve DiMattei, EPA (via e-mail only)
Dave Peterson, EPA (via e-mail only)
Rick Sugatt, EPA (via e-mail only)
Andrew Glucksman, Mabbett (via e-mail only)
Lee Ann Sinagoga, Tetra Tech NUS, Inc (via e-mail only)

Sinagoga, Lee Ann

EPA Follow-up Comments on FSA

From: Barney, David A CIV NAVFACHQ, BRAC PMO <david.a.barney@navy.mil>
Sent: Tuesday, July 09, 2013 3:16 PM
To: Williams, Christine; Dale, Jeffrey M CIV NAVFAC MIDLANT, EV; Rich Gottlieb; Sinagoga, Lee Ann
Cc: Andrew Glucksman
Subject: RE: Davisville Site 16 --EPA responses to Navy Responses to EPA comments on the FSA

Christine,

Thanks, Just a quick note to the text under SC24 is that we agreed to review, not necessarily include, at this point in time.

r/

David Barney
BRAC Environmental Coordinator
NAS South Weymouth, NCBC Davisville
617-753-4656

-----Original Message-----

From: Williams, Christine [mailto:williams.christine@epa.gov]
Sent: Tuesday, July 09, 2013 14:47
To: Barney, David A CIV NAVFACHQ, BRAC PMO; Dale, Jeffrey M CIV NAVFAC MIDLANT, EV; Rich Gottlieb; LeeAnn.Sinagoga@tetrattech.com
Cc: Andrew Glucksman
Subject: Davisville Site 16 --EPA responses to Navy Responses to EPA comments on the FSA

I updated the concerns with our tentative agreements from the conference call today, please let me know if you're OK with these. Thanks. Christine

Responses to the FS Addendum Navy RTC:

✓ New GC#1--Please note that EPA is drafting model ROD groundwater language and will likely require that the ROD use the model language. EPA will provide the model language shortly.

- ✓ SC9 - The "FSA Changes from the FS" also needs to include any changes in the NCP criteria analysis we have discussed concerning the pairing of soil alternatives that have or do not have a WMA with the GW alternatives.
- ✓ SC11 - Revise this response after EPA has sent the Navy the draft model language for groundwater discussed in New General Comment 1, above.
- ✓ SC16 and SC18 - The Navy had removed the term "or other recreational use" but the term "marina" is not part of the Remediation Regulations and appears not to be a defined term anywhere in the AR for this remedial action. The remedial alternatives being proposed for the area meets the State's remediation standards for any recreational use (so there is no CERCLA basis for limiting the use to just a marina). The Navy may have its own reasons for limiting the area to just "marina" use (however that is defined), but there's no CERCLA basis for requiring that level of restriction. Navy has indicated that the phrase, "or other recreational use" will be re-inserted since the transfer documentation can be much more restrictive than the environmental restrictions.
- ✓ SC17 and SC26 - EPA is unclear on the Navy's response - a 5-year review is a component of any alternative that leaves contamination exceeding CERCLA risk standards in place. The Navy's stated answer is the reason why the 5-year review is a component of the alternative (and all alternatives that leave contamination in place). Navy has indicated that adding a subtitle, "Component # Five Year Reviews" will address this comment for both the alternative 3B & GW #A.
- ✓ SC19, SC25, SC30 - The text should at least state that for property the Navy no longer owns that it will establish legally enforceable environmental restrictions on the properties and that the Navy will retain its responsibility for enforcing the environmental restrictions established. This is the language I mentioned during the conference call today.
- ✓ SC24 - The remedial goals are set by the ROD (so also need to be identified in the FS), the RD's role is to identify how the remedial goals will be met. Navy has indicated that the remedial goals for surface water will be included as a table in the body of the document and we're requesting citations in the ARAR tables in SC45.
- ✓ SC26 - The terms of the lease cited by the Navy need to be incorporated into the remedial action in order that it be enforceable under CERCLA and the FFA. EPA believes this would be more cost effective than creating a LUCIP for OU9.
- ✓ SC41 - The federal floodplain/wetland standards should be included in the location-specific tables for all alternatives for any media that take place in the 100-year floodplain or federal jurisdictional wetlands. Although for the groundwater alternative floodplain protection is a fairly de minimus issue, EPA identifies the floodplain standards as ARARs for any remedial work in the coastal floodplain (it does not depend on the media being remediated). For example, the installation or maintenance of wells within the floodplain would have to be conducted so as to not cause in the release in the event a flood event occurred during the remedial action or if the Navy had to do any site work to build up an access road to a well site - it would have to take into account potential floodplain alterations that could occur (such as causing increased flooding somewhere else on the site where it could cause damage to the soil cover). Navy has indicated that this ARAR will be included in the table for alternative 3B.

The State ARARs for coastal zone management were applicable in the FS for alternative 3B, please make the change in the ARAR table for alternative 3B.

✓ SC43 - EPA requested that the time for MNA to achieve cleanups standards be included for all of the alternatives, whether they are described in the FS or the FS addendum. The only way to evaluate and compare alternates that rely on MNA as part of the NCP analysis (including for the ARARs criterion) is to identify how long each will take for the alternative relying on MNA to achieve groundwater cleanup standards. Navy has indicated that the timeframes will be noted in the text.

✓ SC45 - To assess potential migration of contamination to the harbor surface water will be sampled. The Navy's response does indicate that the surface water standards are being used to develop monitoring standards. The citation for the surface water standards would then be noted in the ARAR table.

✓ SC46 and SC47 - The extent of LUCs required for the alternatives being presented in the Addendum should be shown on the addendum figures, or the FS addendum could reference and explain the areas covered by the different LUCs. For example: the boundary of the areas subject to LUCs for cap protection, the boundary of the areas subject to LUCs for cover protection (IF DIFFERENT), the area subject to LUCs for digging restrictions, the areas subject to a residential use restriction and the groundwater extraction LUC area. Soil LUCs areas are different for each of the alternatives and the FSA needs to be specific enough to show the public the extent of the different areas subject to the different LUCs. Residential LUCs cannot be put on areas that are not above risk levels. Restrictions on cap or cover disturbance cannot be put on areas that do not have caps/covers.

As another example: the FSA could explain that on fig 4-1 of the FS, the residential land use restriction & soil management plan LUC will correspond to the entire area shaded in yellow, pink, green striped shaded areas. The cover disturbance LUC also corresponds to the individual areas shaded in yellow, pink & green striped area while the cap disturbance LUC only applies to the green shaded areas. As an alternative the FSA could revise the legend to include which LUCs correspond to which areas and include these figures for each alternative in the FSA since this level of LUC location description was not included in the FS.

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"Sometimes leadership is planting trees under whose shade you'll never sit." Gov. Jennifer M. Granholm

-----Original Message-----
From: Williams, Christine

Sent: Wednesday, June 19, 2013 3:13 PM
To: 'Barney, David A CIV NAVFACHQ, BRAC PMO'; Richard Gottlieb; Dale, Jeffrey M CIV NAVFAC MIDLANT, EV
Cc: Sinagoga, Lee Ann; Peterson, David; Olson, Bryan; Andrew Glucksman
Subject: RE: Site 16 extension

I would appreciate the draft responses to our comments on the OU9 site 16- FS addendum & PP as you suggest on June 26, 2013. It will give us an opportunity to move the technical aspects ahead while waiting for an ARARs discussion at the end of July.

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"Sometimes leadership is planting trees under whose shade you'll never sit." Gov. Jennifer M. Granholm

-----Original Message-----

From: Barney, David A CIV NAVFACHQ, BRAC PMO [mailto:david.a.barney@navy.mil]
Sent: Wednesday, June 19, 2013 2:06 PM
To: Williams, Christine; Richard Gottlieb; Dale, Jeffrey M CIV NAVFAC MIDLANT, EV
Cc: Sinagoga, Lee Ann
Subject: Site 16 extension

Christine and Rich,

Due to the pending legal discussion on the Site 16 FSA and ARARs we are requesting an extension to submitting responses to your comments on the FSA and PP. What we would like to do is provide draft response to you no later than June 26th in order to allow you to review our responses to the majority of the comments prior the ARAR discussion.

r/

David Barney

BRAC Environmental Coordinator
NAS South Weymouth, NCBC Davisville
617-753-4656

EPA - Model "ROD" Language Comment

Sinagoga, Lee Ann

From: Williams, Christine <williams.christine@epa.gov>
Sent: Thursday, August 15, 2013 4:05 PM
To: Barney, David A CIV NAVFACHQ, BRAC PMO
Cc: Dale, Jeffrey M CIV NAVFAC MIDLANT, EV; Peterson, David
Subject: RE: Site 16 comment

Dave/Jeff- I would proceed without our model ROD language until sometime in the future when they finalize it. It doesn't look as if it will be this FY.

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"Sometimes leadership is planting trees under whose shade you'll never sit." Gov. Jennifer M. Granholm

-----Original Message-----

From: Barney, David A CIV NAVFACHQ, BRAC PMO [<mailto:david.a.barney@navy.mil>]
Sent: Thursday, August 15, 2013 3:45 PM
To: Williams, Christine
Cc: Dale, Jeffrey M CIV NAVFAC MIDLANT, EV
Subject: Site 16 comment

Christine, Is there any action on the below from EPA? This was a comment from you on July 9:

New GC#1--Please note that EPA is drafting model ROD groundwater language and will likely require that the ROD use the model language. EPA will provide the model language shortly.

Do you have the language? If not, what is the expected (known?) date this would be completed?

Dave



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND - REGION I
5 POST OFFICE SQUARE, SUITE 100 (OSRR 07-03)
BOSTON, MASSACHUSETTS 02109-3912

May 6, 2013

Jeff Dale, Dept of the Navy, BRAC PMO Northeast
Code 5090 BPMO NE/JD, 4911 South Broad St
Philadelphia, PA 19112-1303

Re: *"Draft Proposed Plan for Installation Restoration Program Site 16 for former Naval Construction Battalion Center, North Kingstown, Rhode Island"*, dated March 2013, North Kingstown Rhode Island

Dear Mr. Dale:

Pursuant to § 7.6 of the Davisville Naval Construction Battalion Center Federal Facility Agreement dated March 23, 1992, as amended (FFA), the Environmental Protection Agency has reviewed the subject document and comments are below.

SPECIFIC COMMENTS

Comment Number	Page	Location	Comment
1	1	Scroll and Box	<ul style="list-style-type: none"> Describes a public "meeting," but the "Let Us Know What You Think" box describes a public hearing. Revise for consistency.
2	1	Box	<ul style="list-style-type: none"> In the third bullet add at the end: "until groundwater cleanup standards are achieved"
3	2	Globally	<ul style="list-style-type: none"> Revise "Site" to "site 16". The NPL Site is capitalized the subareas of the Site are not capitalized.
4	1	Introduction paragraph	<ul style="list-style-type: none"> In the second sentence remove "and the Environmental Protection Agency (EPA)," and insert after "concurrence from" insert "the Environmental Protection Agency (EPA) and."
5	2	Exhibit 1 box	<ul style="list-style-type: none"> In the last sentence of the third paragraph it says the site is not the "primary source" of PAHs to sediments, but on page 4 it says the site activities are "unlikely" to be a source" of the PAHs. Use consistent terminology.
6	3	Figure 1	<ul style="list-style-type: none"> A legend is needed to identify the red outlined area as Site 16. The current call-out box is not sufficient since the area at OU8 is also outlined in red. Add an overview map showing the relative position of the

Comment Number	Page	Location	Comment
			Davisville NCBC within the state.
7	4	First paragraph	<ul style="list-style-type: none"> Define “plume” as “an area of VOC-contaminated groundwater.” Provide an example of VOCs, such as TCE.
8	4	Third paragraph	<ul style="list-style-type: none"> Define “fill material” and “subsurface”
9	4	Sixth paragraph	<ul style="list-style-type: none"> Define “industrial/commercial” as prohibiting residential use. Correct spelling of “restricted.” For the marina “restricted recreational use” needs to be defined, since the way the Navy is proposing using the term (meeting residential standards in the top two feet and then LUC restrictions to prevent disturbance of subsurface soil) is different than how the term is used in the RI Remediation Regulations (limited, controlled recreational activity that permit industrial cleanup standards to be applied rather than the normal residential cleanup standards for “unrestricted” recreational used.
10	4	9 th paragraph	<ul style="list-style-type: none"> A heading should be added before this paragraph. Suggest “VOC Results” or similar to inform reader this section specifically refers to VOC results in various media.
11	4	10 th paragraph	<ul style="list-style-type: none"> A heading should be added before this paragraph. Suggest “PAH Results” or similar to inform reader this section specifically refers to PAH results in various media.
12	4	11 th paragraph	<ul style="list-style-type: none"> Define surface soil, shallow subsurface soil, and shallow groundwater. The last sentence says sediment PAHs are “unlikely” to be from historical operations while the Exhibit 1 Box on page 2 says site operations are not the “primary source” of sediment PAHs. Use consistent terminology.
13	4	12 th paragraph	<ul style="list-style-type: none"> Explain whether dioxins/furans were detected in surface, shallow or deep soil.
14	4	13 th paragraph	<ul style="list-style-type: none"> The first sentence should be moved toward the end of this paragraph. Revise second sentence to read “Most locations with arsenic or lead are within the northwestern portion of the NCA.”
15	5	Figure 2	<ul style="list-style-type: none"> Figure is very busy, is everything needed? This figure should reflex the locations of the buildings and activities noted in the proposed plan on page 4 not everything Navy has done in site 16. Figure refers to “Suspected FFA...” but “suspected” is nowhere in document text. Revise for consistency.

Comment Number	Page	Location	Comment
			<ul style="list-style-type: none"> • Figure refers to suspected USTs. Navy removed several USTs in EBS 28 area. Remove the word suspected. • Need to use a call-out box or a legend to identify the black line around the NCA. • Legend is blank for “Developed area...” and “Undeveloped...” • The blue boundary (TCE groundwater plume) extends into Narragansett Bay. Is this eastern extent confirmed or assumed? If assumed, a different boundary line should be used to depict that extent, such as a dashed blue line. • The marina area should be delineated as a separate area from the adjacent undeveloped north central area (it is currently, and will continue to be; operated as a recreational facility and has different cleanup standards).
16	6	1 st paragraph	<ul style="list-style-type: none"> • Revise 3rd sentence to “...environmental investigations at other <u>Davisville, NCBC</u> sites...”
17	6	2 nd paragraph	<ul style="list-style-type: none"> • Define ROD here
18	6	3 rd paragraph	<ul style="list-style-type: none"> • Define RI/FS
19	6	7 th paragraph	<ul style="list-style-type: none"> • 3rd sentence, add “hypothetical potential” in front of the word residents. (Consistent with eco risk section.)
20	6	11 th paragraph	<ul style="list-style-type: none"> • 1st bullet, define surface soil; delete “(but not exclusively)” it is redundant • 1st bullet, add exposure between acceptable and level
21	6	11 th paragraph	<ul style="list-style-type: none"> • 2nd bullet, delete “(but not exclusively)” it is redundant; also delete “in the northwestern portion of the NCA” because this area is not unique and does not have a different remedy from other areas in the NCA. • See comment above regarding the terminology used associated with recreational exposure to subsurface soil.
22	6	11 th paragraph	<ul style="list-style-type: none"> • Third sentence, change current sentence to “...found in groundwater, including PAHs...” • Remove the comma after the word metals
23	7	1 st paragraph	<ul style="list-style-type: none"> • Remove the sentence that begins “However, most of...” because the conditionality described is not fully explained in the paragraph.
24	7	1 st bullet	<ul style="list-style-type: none"> • Revise first bullet to read, “There are no risks to individuals touching...” • Define seeps as “groundwater seeping into Allen Harbor” or similar
25	7	2 nd bullet	<ul style="list-style-type: none"> • The bullet should explain that (according to earlier text previously commented on), there is limited-to-no site-

Comment Number	Page	Location	Comment
			related contamination in the sediment, therefore there is no CERCLA risk
26	7	Step 1	<ul style="list-style-type: none"> All bullets, identify the location of offending surface soil, and surface water
27	7	12 th paragraph	<ul style="list-style-type: none"> Revise the paragraph to more clearly explain what the predominant COPCs are. As it currently reads, PAHs may be interpreted to be the predominant COPCs. Remove the discussion of any sediment COPCs. Define surface soils. The "point of clarification" should only be included in the human health risk assessment section. This section is discussing the RI not the FS. However, the sentence should include a brief explanation of the results and why it is OK to discard pesticides from the risk assessment.
28	7	Step 2	<ul style="list-style-type: none"> The term "groundwater-seeps/surface water" is not consistent with other text describing seeps. Revise for consistency. Remove "sediments"
29	7, 8	Step 3	<ul style="list-style-type: none"> The term "groundwater-seeps/surface water" is not consistent with other text describing seeps. Revise for consistency. Remove discussion of sediments Define surface soils. Define the meaning of "limited" in second sentence, or remove term. Replace "...refined information regarding..." with "...refined analysis about..."
30	8	1 st bullet	<ul style="list-style-type: none"> Move the first bullet concerning sediments to the beginning of both the human health and eco-risk sections and modify it to say that sediment (although evaluated in the risk assessments) was not a media of concern because sediment contamination is not site-related and does not exceed local anthropogenic background levels (as noted previously, be consistent on the terminology used to discuss this throughout the document).
31	8	RAO Paragraph	<ul style="list-style-type: none"> Last sentence implies that specific soil RAOs were developed for only the Benzene sub-area; specific RAOs were also developed for Marina Building and NCA. Appears sentence can be revised by removing the text in parentheses.
32	8	Soil RAO 1	<ul style="list-style-type: none"> Page 6, second bullet regarding subsurface soil, states no unacceptable risks to construction workers or trespassers. Also mentioned are exposures to dioxins/furans. However,

Comment Number	Page	Location	Comment
			Page 8 Soil RAO 1 includes construction workers but no mention of trespassers. And no mention of dioxins/furans. Revise as appropriate.
33	8	Soil RAO 2&5	<ul style="list-style-type: none"> For the text of each of these RAO insert “, sediment, and surface water” after “groundwater.” These are only RAOs for Soil Alternative 5. The Soil RAOs for Soil Alternative 3A would replace “groundwater” with “sediment and surface water.”
34	8	Soil RAO 7	<ul style="list-style-type: none"> Remove the risk details now (text in parentheses)? Reference to Exhibit 2 more appropriate in 1st column paragraph describing RAOs.
35	8	Groundwater RAO1	<ul style="list-style-type: none"> Groundwater RAO 1 is temporary outside of the waste management area (until groundwater cleanup standards are achieved) and a permanent RAO inside of the compliance boundary for the waste management area.
36	8	Groundwater RAO 4	<ul style="list-style-type: none"> Briefly describe “beneficial use” RAO4 only applies outside of the compliance boundary for the waste management area.
37	8	FS paragraph	<ul style="list-style-type: none"> Remove or explain “primary” in the sentence “...cleanup levels were developed for the <u>primary</u> soil COCS...”
38	8	Groundwater COC paragraph	<ul style="list-style-type: none"> Remove or explain “primary” in the sentence “...cleanup levels were developed in the FS for the primary groundwater COCS...” There are “cleanup levels” for groundwater outside of the waste management area compliance boundary and “performance standards” (for monitoring) for groundwater inside of the compliance boundary.
39	8	Summary of Remedial Alternatives	<ul style="list-style-type: none"> At the end of this paragraph, add “There are 7 remedial alternatives for soil and 8 for groundwater.” Add at the beginning of the first sentence: “A number of.” In the last sentence insert “in the Feasibility Study Addendum” after “developed.”
40	9	Table 1	<ul style="list-style-type: none"> Define the values in parentheses in the Industrial User column. Split the industrial column so that there is a column for direct exposure standards (under Alternative S-3A and a separate column of leachability standards (for the other Soil Alternatives). Revise column heading to “Residential/Recreational User” For the “Residential/Recreational User” split the column so that there is a column for direct exposure standards (under Alternative S-3A and a separate column of leachability

Comment Number	Page	Location	Comment
			standards (for the other Soil Alternatives).
41	9	Footnotes 3, 4	<ul style="list-style-type: none"> Revise footnote text to state "...State of Rhode Island Residential Direct Exposure Criteria. ...State of Rhode Island Industrial/Commercial Direct Exposure Criteria."
42	9	Footnote 4	<ul style="list-style-type: none"> Remove the footnote because the residential standards apply both to the marina area where soil will be cleaned up in the top two feet to the residential standards, and to the marina subsurface soils and all soils throughout the remainder of the Site where residential standards will be used as the basis for establishing LUC boundaries.
43	9	Table 1 and Footnote 5	<ul style="list-style-type: none"> In some cases in the table, the word "Leach" includes footnote 5, not in others. Also, define "Leach" abbreviation in the footnote. In footnote 5, only standards for RI GA leachability should be included At the end of the first sentence add: "and downgradient sediment and surface waters."
44	9	Footnote 6	<ul style="list-style-type: none"> Revise text to "...considered in the development of the remedial alternatives..." Also, the sentence on RIDEM criteria should clarify these criteria (e.g. direct exposure, leachability). Remove the second sentence since TPH standards should not be considered under the development of the CERCLA alternatives (contaminated soil with both TPH and CERCLA contaminants can only be remediated under a ROD to address the CERCLA exceedances).
45	10	Table header vs. Footnote 1	<ul style="list-style-type: none"> Revise or explain different use of phrase "groundwater cleanup levels" vs. "groundwater cleanup goals" or revise for consistency. The third sentence of footnote 1 should be moved to a new footnote (that will become the new footnote 1) that footnotes the Table header, since the issue of cleanup standards vs. performance standards applies to all of the contaminants in the table. Screening levels (naphalene) and SDWA Action Levels (lead) are not used to set cleanup goals, instead the screening/action levels reference risk-based standards for establishing the cleanup level. So, for naphalene and lead cite as "EPA risk-based standards" and add a footnote for each contaminant citing the guidance used to establish the level (these guidance should then be cited as TBCs in the groundwater chemical-specific ARARs tables). Remove Facility Wide Background and replace with

Comment Number	Page	Location	Comment
			"MCL or Facility-Wide Background whichever is higher" as was agreed during the BCT meeting.
46	10	Footnote	<ul style="list-style-type: none"> • Add EPA before MCL • Regarding the second sentence, only exceedances of MCLs & RIDEM standards were actually used to identify additional contaminants in the Table, so remove ", non-zero MCLGs." • Delete RIDEM from footnote or add to table in applicable location (nickel)
47	11	Bullet Soil Alternatives	<ul style="list-style-type: none"> • The concept of a waste management area is not a specific component only of alternative S-3A, it applies to every soil alternative where waste is left in place. It doesn't add any requirements to the soil alternatives where it is present.
48	11	Bullet Groundwater Alternative G-3, G-4, G-5	<ul style="list-style-type: none"> • High concentration area not shown on Figure 4. Add.
49	11	Bullet Groundwater Alternative G-3A	<ul style="list-style-type: none"> • Source area not shown on Figure 4. Add.
50	11	Alternative S-2	<ul style="list-style-type: none"> • Recommend revising first sentence to: "Alternative S-2 applies to selected areas in the NCA where contaminant concentrations exceed industrial cleanup levels. The alternative involves covering these areas with a 2-foot-thick cover of clean soil obtained from an off-site location. This will prevent unacceptable exposure to the underlying contaminated surface and subsurface soil." • Describe the low permeability cover (e.g. clay or liner)
51	11	Alternative S-2 (second column)	<ul style="list-style-type: none"> • Recommend revising last sentence to "...LUCs that would allow recreational use but prohibit residential use..." As the sentence currently reads, it is unclear whether the term "restrict" means <i>prevent</i> or <i>exclude to only</i>.
52	11	Alternative S-3 AND Alternatives where same text is used	<ul style="list-style-type: none"> • Need better description of the word "deeper" in the 3rd sentence (i.e.; saturated). • Recommend revising last sentence to "...LUCs that would allow recreational use but prohibit residential use..." As the sentence currently reads, it is unclear whether the term "restrict" means <i>prevent</i> or <i>exclude to only</i>. • Change "...unauthorized excavation and/or disposal of soils below 2 feet bgs." to "...unauthorized soil excavation or soil disposal or both below 2 feet bgs."

Comment Number	Page	Location	Comment
53	11	Alternative S-3A AND Alternative where same text is used	<ul style="list-style-type: none"> • Add the word "Cover" to the title- it should replace the words "waste management area" since covers are an integral part of this remedy that distinguishes it from other alternatives. A WMA is included in other alternatives, but hasn't been included in the title. Please remove these words (WMA) from this title. • Take the third sentence and move it to a new paragraph to discuss the Marina area. • Change the text of the marina paragraph to "LUCs would be implemented to permit the continued use of the area as a marina or other recreational use, while preventing disturbance of the cover and prevent the unauthorized excavation and/or disposal of contaminated soils below 2 feet bgs. Long-term monitoring would be required that includes at least yearly inspections to determine whether that LUCs were being complied with and that components of the remedy, particularly the cover, were not disturbed. Groundwater and/or sediment/surface water monitoring would be conducted to ensure underlying contamination is not migrating from the covered area to Allen Harbor. Long-term maintenance would be implemented to maintain the 2-foot of clean soil cover and other components of the remedy. • Remove the fourth sentence. • Replace the fifth and sixth sentences with: "LUCs would be implemented to prevent residential use of all areas exceeding residential risk levels, outside of an area around Building E-107, discussed below. In areas where there is a cover installed, the LUCs would also prevent disturbance of the cover and other components of the remedy, as well as preventing the unauthorized excavation and/or disposal of soils below 2 feet bgs. Long-term monitoring and maintenance would also be required that includes inspections and any required maintenance of the cover, as well as groundwater and/or sediment/surface water monitoring to ensure underlying contamination is not migrating from the cover area to Allen Harbor or Narragansett Bay. At least yearly compliance monitoring would ensure LUCs were being complied with."
54	12	Figure 3	<ul style="list-style-type: none"> • Need clearer, thicker boundary lines. Recommend removing segmented proposed excavation area; just outline the entire proposed excavation area and also label it "Boundary of soil cover". Remove or include in the legend, the yellow outline with no legend definition. Need

Comment Number	Page	Location	Comment
			<p>dock legend or place dock text over dock outline. Generally difficult figure to quickly make sense of.</p> <ul style="list-style-type: none"> • Add a line to show the boundary of the groundwater restricted area.
55	13	Figure 4	<ul style="list-style-type: none"> • Add legend • The figure should be labeled Soil Alternatives S-2, S-3, S-3A, S-4 & S-6 since there is no soil LUC boundary for either Alternatives S-1 or S-5. • Improve line contrast between soil Cover boundary and Soil LUC boundary. • Instead of a WMA boundary show the extent of the Soil Cover Areas. • Soil Cover Areas should include the area to be excavated & covered at the Marina since that area has waste being managed in place also. • Define differing clean up areas per Groundwater Alternatives bullets on Page 11 (define "high-concentration areas," "east end of Former Building 41," and "source area." In particular, identify where cover areas are proposed.
56	14	Alternative S-4	<ul style="list-style-type: none"> • What is the intent of using the word "balance" in the 2nd sentence? Recommend different description here.
57	14	Alternative S-5	<ul style="list-style-type: none"> • In the second sentence, change "offsite" to "off-site" for consistency. • After "excavated" insert "to achieve residential-exposure-based and leachability-based soil clean-up levels,"
58	14	Alternative S-5	<ul style="list-style-type: none"> • Add a figure showing the components and extent of Soil alternative S-5.
59	14	Alternative S-6	<ul style="list-style-type: none"> • 1st sentence, change "...soil cover over the full extent of the entire NCA..." to "...soil cover over the NCA..." • 3rd sentence, add contaminant before migration
60	14	Alternative G-1	<ul style="list-style-type: none"> • 1st sentence, change "...in order to..." to "...to..."
61	14	Alternative G-2 AND Alternatives were same text used	<ul style="list-style-type: none"> • Text should discuss "Performance Standards" applicable within wma established under the appropriate soil alternatives. • 3rd sentence, describe the type of use that the groundwater LUC prevents. • The text should discuss whether the alternative can only be pared with Soil Alternatives S-2, S-3, S-3A, S-4, S-6 (otherwise if Alt. S-5 is chosen this groundwater alternative would need to meet groundwater cleanup standards throughout the site).

Comment Number	Page	Location	Comment
			<ul style="list-style-type: none"> The text needs to identify how long MNA is expected to take to achieve groundwater cleanup standards outside of the wma compliance boundary for the various soil alternative with an wma and for throughout the site under Alternatives S-1 and S-5. The text should clarify that LUCs would be permanent within the compliance boundary of any wma established under the various soil alternatives with a wma and temporary outside of the compliance boundary and for the entire Site for Alternative S-5 for the period it takes to achieve groundwater cleanup standards.
62	14	Alternative G-3 AND Alternative where same text used	<ul style="list-style-type: none"> The same analysis discussed above for G-2 needs to be applied how this groundwater alternative would work paired the various soil alternatives with and without a wma. Provide a Figure showing 1,000 ug/l TCE contour 3rd sentence, add groundwater between routine and sampling. 5th sentence, add text to generally describe construction methods that prevent unacceptable vapor intrusion (e.g. vapor barrier).
63	14	Alternative G-3A	<ul style="list-style-type: none"> The same analysis discussed above for G-2 needs to be applied how this groundwater alternative would work paired with the soil alternatives with or without a wma. Show on figure "source areas near former Building 41" where injections are planned. Show on figure "area down gradient of treatment area" where MNA would be monitored by a routine groundwater sampling program.
64	15	Alternative G-5	<ul style="list-style-type: none"> 1st sentence, change "...extraction and treatment..." to "...extraction and above-ground treatment..." The same analysis discussed above for G-2 needs to be applied how this groundwater alternative would work paired with the soil alternatives with or without a wma.
65	15	Alternative G-6	<ul style="list-style-type: none"> The same analysis discussed above for G-2 needs to be applied how this groundwater alternative would work paired with the soil alternatives with or without a wma. Use consistent term to describe "biological degradation" vs. "biodegradation" Change last sentence to "Because carbon source injections would occur over a larger area compared to other injection alternatives, faster groundwater remediation is expected with this alternative."
66	15	Preferred	<ul style="list-style-type: none"> Add a figure showing the preferred alternative.

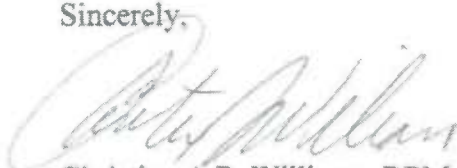
Comment Number	Page	Location	Comment
		Alternative	<ul style="list-style-type: none"> The Proposed Plan needs to clearly identify in the text and in a figure which properties are still owned by the Navy and which properties are no longer Navy owned, as well as LUC requirements that will need to be established on non-Navy property. The owners of the non-Navy property within the Site need to be directly notified of the issuance of the Proposed Plan and their opportunity to comment. 2nd sentence, add “currently” between “is” and “required”, since Navy is proposing a contingency remedy incase the contaminant migration from the NCA increases and causes a risk to the environment in Allen Harbor. Add a section since, based what the ARARs table in the FS states for S-3A, in the Proposed Plan: “The Navy will solicit public comment as part of the proposed plan on the measures taken through the remedial action to protect floodplain and wetland resources.” Specifically add that the covers will be installed and maintained to prevent any release of contamination that would impair federal floodplain (prevent washout in a 100 year storm event) or wetland resources.
67	15	2 nd bullet	<ul style="list-style-type: none"> Residential standards are also exceeded in the NCA area, but will be addressed through LUCs. In the marina area the exceedances will be addressed through a combination of excavation and off-site disposal of the surface 2 feet of contaminated soil and LUCs to prevent exposure to subsurface soils exceeding unrestricted use standards below 2 feet. Please add.
68	16	Exhibit 3	<ul style="list-style-type: none"> Number the 9 criteria Add at the end of the “Community Acceptance” criterion “The Navy will respond to the public’s comments on the Proposed Plan in a Responsiveness Summary the will be part of the final Record of Decision.”
69	16	Soil Alternative S-3A	<ul style="list-style-type: none"> Add a new 1st bullet: “Two foot soil covers will be maintained and monitored to ensure underlying contaminated soil is not disturbed and that contamination is not migrating from the covered areas to Allen Harbor and Narragansett Bay.” Change the text of the 1st bullet to: “LUCs will permit restricted recreational use in the Marina area and prevent residential development in the NCA area. There will be at least yearly compliance monitoring of LUCs and five-year reviews will be conducted to assess the protectiveness of the remedy since contamination is being left in place.”
70	16	Groundwater	<ul style="list-style-type: none"> New 1st bullet: “This alternative is paired with Soil

Comment Number	Page	Location	Comment
		Alternative G3-B	<p>Alternative S-3A , which creates a waste management area has a groundwater compliance boundary established around it. Groundwater outside of the compliance boundary needs to attain federal drinking water standards over time through treatment and MNA, while inside the compliance boundary contaminated groundwater is only required to be monitored to ensure it is not migrating and causing harm to Allen Harbor, Narragansett Bay, or surrounding areas of uncontaminated groundwater.”</p> <ul style="list-style-type: none"> • Replace the first bullet with: “LUCs will prevent exposure to contaminated groundwater outside of the compliance boundary until groundwater cleanup standards are attained. The LUCs will permanently prevent exposure to groundwater inside of the compliance boundary. • Remove the second bullet. • In the 3rd bullet after “Allen Harbor” insert “and Narragansett Bay” and insert “currently” after “does not.” • In the 4th bullet, it is unclear why the phrase “permanently and irreversibly” added to this description when the same is true of other alternatives. Such colorful text could be interpreted by general readers as a benefit unique to this alternative, but to a technical audience it comes across as a slight bias rather than possibly intended emphasis. • In the fifth bullet replace the second sentence with: “Under this alternative groundwater outside of the compliance boundary is calculated to take approximately 100 years to attain drinking water standards, compared to 300 years from the MNA only alternative G-2.”
71	17	Alternative S-5	<ul style="list-style-type: none"> • Change criterion 4 to the “does Not meet” symbol
72	17	Costs	<ul style="list-style-type: none"> • Where are groundwater and/or sediment/surface water monitoring, as well as yearly LUC compliance monitoring, included in the costs? Add a footnote if the costs are incorporated into the monitoring for Alt. G-3B.
73	17	Assumed Duration	<ul style="list-style-type: none"> • Add footnote describing method/rationale behind assumption
74	17	Modifying Criteria	<ul style="list-style-type: none"> • Remove the two empty cells
75	17	Community Acceptance	<ul style="list-style-type: none"> • Replace “feasibility study and” with “the.”
76	17	Notes	<ul style="list-style-type: none"> • Change “Criteria” to “Criterion.”
77	18	Line 4	<ul style="list-style-type: none"> • Change the symbols for G-1 to “Does Not Meet Criterion.”
78	18	Modifying Criteria	<ul style="list-style-type: none"> • Remove the two empty cells

Comment Number	Page	Location	Comment
79	18	Community Acceptance	<ul style="list-style-type: none"> • Replace "feasibility study and" with "the."
80	18	Assumed Duration	<ul style="list-style-type: none"> • Add footnote describing method/rationale behind assumption
81	18	Notes	<ul style="list-style-type: none"> • Change "Criteria" to "Criterion."
82	19	4 th Paragraph	<ul style="list-style-type: none"> • After "on-line" insert "(see second column)."
83	19 & 20	Glossary of Terms	<ul style="list-style-type: none"> • The definition of Background should include anthropogenic background also (man-made contaminants in the area from non-Navy sources) • Add Feasibility Study Addendum

If you have any questions with regard to this letter, please contact me at (617) 918-1384.

Sincerely,



Christine A.P. Williams, RPM
Federal Facilities Superfund Section

cc: Richard Gottlieb, RIDEM (via e-mail only)
 Dave Barney, BEC (via e-mail only)
 Johnathan Reiner, ToNK
 Steven King, RIEDC
 Rudy Brown, EPA(via e-mail only)
 David Peterson, EPA(via e-mail only)
 Andrew Glucksman, Mabbett (via e-mail only)
 Lee Ann Sinagoga, Tetra Tech NUS, Inc (via e-mail only)

Sinagoga, Lee Ann

EPA Follow-up Comments on PP

From: Barney, David A CIV NAVFACHQ, BRAC PMO <david.a.barney@navy.mil>
Sent: Wednesday, July 31, 2013 12:22 PM
To: Sinagoga, Lee Ann
Subject: FW: EPA preliminary comments on the Navy's preliminary responses to EPA comments on the proposed plan- please call to discuss once you've read through them
Attachments: image001.jpg

-----Original Message-----

From: Williams, Christine [mailto:williams.christine@epa.gov]

Sent: Thursday, July 25, 2013 16:06

To: Barney, David A CIV NAVFACHQ, BRAC PMO; Dale, Jeffrey M CIV NAVFAC MIDLANT, EV; Rich Gottlieb

Cc: Peterson, David; Andrew Glucksman

Subject: EPA preliminary comments on the Navy's preliminary responses to EPA comments on the proposed plan- please call to discuss once you've read through them

Comment Number

Page

Location

Comment

9

4

Sixth paragraph

. Remove definition for "Restricted Recreational Use." Suggest using the following definition for "Recreational Use": "Refers to remedial approach which will only permit recreational use within the Marina area of the property that does not interfere with the CERCLA remedy established under the ROD, in this case the creation and maintenance of a two foot thick cover of clean soil over deeper contaminated soil. Permitted and prohibited recreational activities, consistent with the CERCLA remedy, will be established under a LUC, which will also restrict residential use of the area. Modification of the definitions of permitted and prohibited recreational activities under the LUC can only be made with the approval of the Navy, USEPA, and RIDEM."

21

6

11 th paragraph

. If the term "recreational use" is used differently between the risk assessment and how the RI remediation regulations define the term the difference should be explained since "recreational use" will be a defined term (see above).

24

7

1st bullet

. Regarding the risk sentence suggest saying: "Individual contact does not pose a CERCLA risk."

27

7

12th paragraph

. The purpose of the Proposed Plan is to identify CERCLA COPCs. Even though the Navy studied the sediments, they have been screened out as not being contaminated with CERCLA contaminants. So don't discuss them in the Proposed Plan or it will add confusion to the public as to why the Navy is not remediating the contaminated sediments it studied.

28

7

Step 2

- . See previous comment about excluding discussion of sediments (don't discuss non- CERCLA contamination in this Proposed Plan)

29

7, 8

Step 3

- . See previous comment about excluding discussion of sediments (don't discuss non- CERCLA contamination in this Proposed Plan)

30

8

1st bullet

- . Follow EPA's suggested text regarding sediments (see discussion above).

35

8

Groundwater RAO1

- . Note that EPA Region 1 is in the process of revising model language to describe groundwater RAOs in CERCLA decision documents. EPA will supply the approved model text, when it is released.

40

9

Table 1

. Regarding the second and fourth bullets - the column should then reference (through a footnote) whether the cleanup standards is based on direct contact or leachability.

. Regarding the third bullet the column heading should be "Residential/Recreational."

42

9

Footnote 4

. Remove the footnote because the residential standards apply both to the marina area where soil will be cleaned up in the top two feet to the residential standards, and to the marina subsurface soils and all soils throughout the remainder of the Site where residential standards will be used as the basis for establishing LUC boundaries.

43

9

Table 1 and Footnote 5

. In some cases in the table, the word "Leach" includes footnote 5, not in others. Also, define "Leach" abbreviation in the footnote.

. In footnote 5, only standards for RI GA leachability should be included

. At the end of the first sentence add: "and downgradient sediment and surface waters."

45

10

Table header vs. Footnote 1

. Regarding the third bullet - EPA was trying to determine if the EPA RSL was calculated or taken from a particular EPA risk guidance document, and if it was, whether that guidance document should be cited as a TBC in the Chemical-specific ARARs Table.

55

13

Figure 4

. Regarding the fourth bullet - the figure should show the extent of areas that will be restricted by soil covers for each alternative (assuming they are different for the different alternatives). This will show the public (particularly potential stakeholders who might have an interest in knowing the extent of restricted soil covers under each alternative) the extent of the restrictions under each of the alternatives.

58

14

Alternative S-5

. See previous response, regarding showing the public how much land will be restricted under the different alternatives.

61

14

Alternative G-2 AND Alternatives were same text used

. Regarding the fifth bullet, LUC will need to be left in place as long as soil, as well as groundwater, exceeds CERCLA risk standards. There's no discussion in FS that the soil is naturally attenuating, so the assumption is the soil alternative that leave waste in place are permanent.

64

15

Alternative G-5

. Regarding the first bullet, the comment was made because an alternative could be extraction with no treatment, just off-site disposal.

US EPA New England
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Mail Code - OSRR 07-3
Boston MA 02109-3912
phone - (617) 918-1384
fax - (617) 918- 0384
e-mail - williams.christine@epa.gov

"Sometimes leadership is planting trees under whose shade you'll never sit." Gov. Jennifer M. Granholm



RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

17 April 2013

Mr. Jeffrey Dale, RPM
 U.S. Department of the Navy
 BRAC PMO, Northeast
 4911 South Broad Street
 Building 679, PNBC
 Philadelphia, PA 19112

RE: NCBC Site 16 Feasibility Study Addendum
 Davisville, Rhode Island
 Submitted 20 March 2013, Dated 19 March 2013

Dear Mr. Dale:

The Rhode Island Department of Environmental Management, Office of Waste Management (RIDEM) has reviewed the above referenced document and comments are presented below:

1. Page 3-1, Section 3.1.1, Soil Alternative S-3A, Description, Component 1: Excavation, Paragraph 2 – This paragraph notes that shoring of Building E-107 may be necessary due to the close proximity of the building to the excavation and therefore concern for occupation of the building during said excavation activities. The Navy is proposing to excavate the top two feet of soil. Assuming the construction of the building followed some semblance of the building code there should be a minimum 42" deep footing to get below the frost line. This would negate the need for any shoring. Perhaps the Navy can send someone out to Building E-107 to dig a hole by the foundation to see if the footing goes at least two feet below ground surface. The concern is that we are unnecessarily alarming users of the site. Please remove this concern from the paragraph unless it can be substantiated.

Shoring for the excavation, however, could be required depending upon how the Navy addresses exceedances of RIDEM GB TPH Leachability Criteria of 2500 ppm. There are two locations where this criteria are exceeded: 4400 ppm @ SB16-094 at a depth of 5' to 7' bgs and 5100 ppm @ 28-SB-P45 at an unknown depth. There is one other location, TP16-01 from 5' to 9' bgs at 1500ppm which exceeds the GA Leachability Criteria of 1000 ppm. The Navy may choose to either excavate the contaminated soil or develop a PRG to monitor for TPH in groundwater.

2. Page 3-2, Section 3.1.1, Soil Alternative S-3A, Description, Component 3: Designation of Waste Management Area – Based on Figure 3-2, the northern portion of the waste management area (WMA) abuts the shoreline of Allen Harbor. Groundwater flow direction is from the WMA to Allen Harbor. This northern boundary needs to be moved south far enough to allow for the monitoring of groundwater leaving the WMA, but prior to entering Allen Harbor to ensure there is no adverse affect, i.e. exceedances of PRGs, from the groundwater on Allen Harbor.
3. Table 3-1, Federal and State Chemical Specific ARARs – Please remove the Citation DEM-DSR-01-93, Section 3.39. At our 28 March 2013 BCT meeting RIDEM agreed to allow the Navy to call the recreational land use at the marina “restricted recreational” to clarify that land use at the marina would be restricted to recreational use and that no residential use could take place on the marina property even though the remedial standards for recreational use are the same as the residential standards. Section 3.39 of the RIDEM Remediation Regulations, Amended November 2011 does not apply to this site. It would be more appropriate to cite Section 3.62(a) of the RIDEM Remediation Regulations for the reasons cited in our 26 March 2013 comment #1 to the Navy on the NCBC Site 16 Proposed Plan. Please include DEM-DSR-01-93 Section 8.02(A)(iv) which addresses TPH standards.
4. Table 3-3, Federal and State Action Specific ARARs – Alternative S-3A - Please add the following RIDEM Office of Waste Management Solid Waste Regulation No. 2 Citations: Section 2.1.08(c)(1)(i)(B). This portion of the regulation addresses minimum number of upgradient and downgradient monitoring wells and Sections 2.1.08(c)(1)(i)(C) & (D). These regulations govern where downgradient monitoring wells can be located in relation to a waste management unit.
5. Page 3-4, Section 3.1.2, Detailed Analysis, Alternative S-3A, Short-Term Effectiveness, Paragraph 4, Last Sentence - Based on the Navy response to Comment 1 perhaps the reference to the manufacture of steel used in sheet piles for shoring could be eliminated since a two foot deep excavation is unlikely to require shoring.
6. Page 3-5, Section 3.1.2, Detailed Analysis, Alternative S-3A, Implementability, Paragraph 2, Sentence 2 – This sentence states that LUCs would be incorporated into the Land Use Control Implementation Plan (LUCIP). Please clarify that LUCs (institutional controls) would result in an environmental land use restriction (ELUR) recorded on the property’s deed as described in Section 8.09 of the RIDEM Remediation Regulations, as Amended November 2011.
7. Page 3-7, Section 3.2.1, Groundwater Alternative G-3B, Description, Component 2: Monitored Natural Attenuation, Paragraph 1 – This paragraph states that because of the low frequency of detection and low concentrations that arsenic and naphthalene would not be included in the monitoring program. Since they are COCs they need

to be included in the monitoring program. If after an agreed upon number of sampling rounds that these COCs do not exceed PRGs then the parties can discuss discontinuing monitoring for said COCs. RIDEM concurs that iron and manganese need not be considered in the long-term monitoring program as these constituents are considered nutrients.

8. Page 3-7, Section 3.2.1, Groundwater Alternative G-3B, Component 3: LUCs, Paragraph 1 – Similar to Comment 6, RIDEM is concerned that the LUC will result in an ELUR on the property in accordance with Section 8.09 of the RIDEM Remediation Regulations, as Amended November 2011. Also of concern to RIDEM is that Site 16 be used for industrial/commercial purposes with the exception of the marina which is to be used for recreational purposes and that this information is described in the ELUR. The requirement that this property be used specifically for port related activities is an issue that is of concern to the Navy, Maritime Administration and QDC and should be described separate from the ELUR.
9. Page 3-8, Section 3.2.1, Groundwater Alternative G-3B, Component 3: LUCs, Paragraph 3 – “Thus, the additional LUC would be applied to areas where VOC-contaminated shallow groundwater is present, and wherever vapor intrusion could be a potential pathway. This is assumed to be coincidental with the area where groundwater use is prohibited.” With respect to building construction the first sentence implies that there will be areas where there will be no restriction on building construction methods. For the second sentence, RIDEM was under the impression that groundwater use was to be restricted over the entire site. If groundwater use is to be restricted over the entire site then building construction methods will also be restricted over the entire site. Please confirm whether groundwater use will be restricted over the entire site and revise this paragraph as appropriate.
10. Page 3-10, Section 3.2.1, Groundwater Alternative G-3B, Component 4: Contingency Remedy – please note that any monitoring frequencies presented in the FSA are for estimating purposes and will be finalized during the remedial design.
11. Table 3-1, Chemical Specific ARARs Soil– Please include RIDEM Remediation Regulations (DEM-DSR-01-93) Sections 8.01 Remedial Objectives which are more stringent than USEPA criteria, Section 8.08 (A) and (B) Points of Compliance for Soils and Groundwater, respectively, Section 8.10 Compliance Sampling and Section 9.02 Remedial Objectives which address groundwater, surface water, sediment, soil and air remedial objectives.
12. Table 3-2, Location Specific ARARs Soil - Please include RIDEM Remediation Regulations (DEM-DSR-01-93) Section 8.09 Institutional Controls as this describes how ELURs are to be prepared and administered.

13. Table 3-4, Chemical Specific ARARs Groundwater – Please include RIDEM Remediation regulations (DEM-DSR-01-93) Section 9.02 (A) groundwater Objectives requires a remedial objective for substances which have actual or potential impacts on groundwater.
14. Page 4-3, Section 4.2.1, Marina Soil remediation, Description of Component, Paragraph 2 - See Comment 1 as it not clear that shoring would be required for a two foot deep excavation.
15. Page 5-4, Section 5.1.5, Short-Term Effectiveness Soil, Paragraph 2, Sentence 4 – Please explain for Alternative S-3A how exposure to remaining contaminants that may leach from the soil into the groundwater would be addressed by the WMA. As long as the leached contaminants remain under the WMA they would not be addressed, i.e. meet PRGs, and if they migrate beyond the WMA then they would need to be addressed.
16. Comments on the Proposed Plan have been previously provided to the Navy on 26 March 2013.

RIDEM would like to thank you for the opportunity to comment on this document and looks forward to working with the Navy and USEPA. If you have any questions or require additional information please call me at (401) 222-2797 ext. 7138 or email me at richard.gottlieb@dem.ri.gov.

Sincerely,



Richard Gottlieb, P.E.

Cc: M. Destefano, DEM OWM
C. Williams, EPA Region 1
D. Barney, BRAC Environmental Coordinator
S. King, RIEDC
S. Licardi, ToNK
L. Sinagoga, Tetra Tech

Sinagoga, Lee Ann

RIDEM-ARARs - 7.31.13

From: Barney, David A CIV NAVFACHQ, BRAC PMO <david.a.barney@navy.mil>
Sent: Wednesday, July 31, 2013 11:33 AM
To: Sinagoga, Lee Ann
Subject: FW: NCBC Site 16 ARARs

-----Original Message-----

From: Richard Gottlieb [mailto:richard.gottlieb@DEM.RI.GOV]
Sent: Wednesday, July 31, 2013 11:15
To: Peterson, David; Williams, Christine; Dale, Jeffrey M CIV NAVFAC MIDLANT, EV; Barney, David A CIV NAVFACHQ, BRAC PMO
Cc: Richard Bianculli, Jr; Richard Gottlieb; Matthew Destefano
Subject: RE: NCBC Site 16 ARARs

All,

RIDEM has been evaluating the need for the various ARARs. To save time RIDEM concurs that Remediation Regulations 8.01 (Remedial Objectives), 8.08 (A) & (B) (Points of Compliance) and 9.02 (Remedial Objectives) do not need to be ARARs.

For 8.01 RIDEMs risk range is more stringent than USEPA's risk range, however, the proposed alternative for NCBC Site 16 will meet our requirements. If the alternative should change as a result of the public hearing or comment period RIDEM may again want this section of the Remediation Regulations as an ARAR. Section 9.02 the Navy has already complied with.

For 8.08(A) (Compliance for Soils) RIDEM does not need this section, but instead needs to have Section 8.02(A)(ii) included which addresses leachability criteria.

For 8.08(B)(Compliance for Groundwater) USEPA is requiring the Navy to clean up to MCLs which is more stringent than RIDEM's GB classification of the area.

For Section 9.02 (Remedial Objectives) the Navy has already addressed the regulation.

Basically the only the regulations that we need to discuss are Sections 8.09 (Institutional Controls) and 8.10 (Compliance Sampling) and if there are any concerns with Section 8.02(A)(ii).

Hope this helps to make a shorter conference call.

Thanks,

Rich

Richard Gottlieb, P.E.

Principal Engineer

Rhode Island Dept. of Environmental Management

Office of Waste Management

235 Promenade Street

Providence, RI 02908-5767

Tel: 401-222-2797 ext. 7138

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email: richard.gottlieb@dem.ri.gov

From: Peterson, David [<mailto:Peterson.David@epa.gov>]

Sent: Wednesday, July 24, 2013 1:56 PM

To: Williams, Christine; Jeff Dale; Dave Barney; Richard Gottlieb

Subject: RE: NCBC Site 16 ARARs

I'm available after 10 for the rest of the day.

From: Williams, Christine

Sent: Wednesday, July 24, 2013 1:50 PM

To: Peterson, David; Jeff Dale; Dave Barney; Rich Gottlieb

Subject: RE: NCBC Site 16 ARARs



RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

12 July 2013

Mr. Jeffrey Dale, RPM
 U.S. Department of the Navy
 BRAC PMO, Northeast
 4911 South Broad Street
 Building 679, PNBC
 Philadelphia, PA 19112

RE: NCBC Site 16 Feasibility Study Addendum
 Navy Response to RIDEM 17 April 2013 Comments
 Davisville, Rhode Island
 Submitted 26 June 2013, Dated 26 June 2013

Dear Mr. Dale:

The Rhode Island Department of Environmental Management, Office of Waste Management (RIDEM) has reviewed the above referenced document and comments are presented below:

1. Page 3-1, Section 3.1.1, Soil Alternative S-3A, Description, Component 1: Excavation, Paragraph 2 – This paragraph notes that shoring of Building E-107 may be necessary due to the close proximity of the building to the excavation and therefore concern for occupation of the building during said excavation activities. The Navy is proposing to excavate the top two feet of soil. Assuming the construction of the building followed some semblance of the building code there should be a minimum 42" deep footing to get below the frost line. This would negate the need for any shoring. Perhaps the Navy can send someone out to Building E-107 to dig a hole by the foundation to see if the footing goes at least two feet below ground surface. The concern is that we are unnecessarily alarming users of the site. Please remove this concern from the paragraph unless it can be substantiated.

Navy Response to RIDEM Comment No. 1: The text that describes the shoring is identical to the text for Alternative S-3. If shoring turns out to be unnecessary, then one aspect of the project will be simpler. In the meantime, identifying that shoring may be needed acknowledges a situation that may need to be addressed. Such acknowledgment should not cause any alarm. A preliminary review of construction drawings indicates the building slab does not have foundations; however, the Navy

plans to conduct an evaluation of the slab and foundation as part of the Remedial Design.

RIDEM Comment – Navy response is acceptable.

Shoring for the excavation, however, could be required depending upon how the Navy addresses exceedances of RIDEM GB TPH Leachability Criteria of 2500 ppm. There are two locations where this criteria are exceeded: 4400 ppm @ SB16-094 at a depth of 5' to 7' bgs and 5100 ppm @ 28-SB-P45 at an unknown depth. There is one other location, TP16-01 from 5' to 9' bgs at 1500ppm which exceeds the GA Leachability Criteria of 1000 ppm. The Navy may choose to either excavate the contaminated soil or develop a PRG to monitor for TPH in groundwater.

Navy Response to RIDEM Comment No. 1, continued: TPH remediation that is not co-located with CERCLA contaminants will be addressed in separate correspondence. The Navy understands its options and plans to monitor TPH in the groundwater. Also, per the historical documentation for Site 16, location 28-SB-P45 appears to have been excavated during a removal action.

RIDEM Comment – Navy response is acceptable.

2. Page 3-2, Section 3.1.1, Soil Alternative S-3A, Description, Component 3: Designation of Waste Management Area – Based on Figure 3-2, the northern portion of the waste management area (WMA) abuts the shoreline of Allen Harbor. Groundwater flow direction is from the WMA to Allen Harbor. This northern boundary needs to be moved south far enough to allow for the monitoring of groundwater leaving the WMA, but prior to entering Allen Harbor to ensure there is no adverse affect, i.e. exceedances of PRGs, from the groundwater on Allen Harbor.

NAVY Response to RIDEM Comment No. 2: The edge of the WMA does not need to be moved. The results from the wells along the shoreline will be sufficient to determine if contaminants will migrate beyond the WMA boundary.

RIDEM Comment – Navy response is acceptable.

3. Table 3-1, Federal and State Chemical Specific ARARs – Please remove the Citation DEM-DSR-01-93, Section 3.39. At our 28 March 2013 BCT meeting RIDEM agreed to allow the Navy to call the recreational land use at the marina “restricted recreational” to clarify that land use at the marina would be restricted to recreational use and that no residential use could take place on the marina property even though the remedial standards for recreational use are the same as the residential standards. Section 3.39 of the RIDEM Remediation Regulations, Amended November 2011 does not apply to this site. It would be more appropriate to cite Section 3.62(a) of the RIDEM Remediation Regulations for the reasons cited in our 26 March 2013 comment #1 to the Navy on the NCBC Site 16 Proposed

Plan. Please include DEM-DSR-01-93 Section 8.02(A)(iv) which addresses TPH standards.

*Navy Response to RIDEM Comment No. 3: Table 3-1 was created from Table 4-5 from the FS, which presents the ARARs for Alternative S-3. Two ARARs were added to the end of this Table. Agree that the Navy can delete the ARAR for Section 3.39 from the RIDEM Remediation Regulations. Regarding the "recreational" land use issue at Site 16, please note that Site 16 is **fundamentally** an area that has been used in the past and will be used in the future for industrial/commercial purposes. The immediate Bldg E-107 marina area is only a small portion of Site 16; use is currently restricted to marina use only. While the Navy appreciates the RIDEM concern to assure that "unrestricted" recreational use does not occur in this area, continuing discussions regarding the "appropriate" RIDEM ARARs/definition for this particular area are not warranted given the fundamental nature and use of the area, use restrictions already in place, LUCs that will be added per the Feasibility Study and Proposed Plan documents, and the agreements reached by the BCT to remediate the area*

Disagree with the addition of Section 8.02(A)(vi) with addresses TPH standards because TPH is not covered under CERCLA.

RIDEM Comment – From RIDEM's perspective the recreational use at the marina property is unrestricted and therefore any recreational activity could occur on this property under the RIDEM Remediation Regulations, Amended 2011. Limiting the property to marina use is an issue that will be addressed as part of the MARAD transfer. Otherwise the Navy response to this comment is acceptable noting that TPH will be addressed under separate correspondence.

4. Table 3-3, Federal and State Action Specific ARARs – Alternative S-3A - Please add the following RIDEM Office of Waste Management Solid Waste Regulation No. 2 Citations: Section 2.1.08(c)(1)(i)(B). This portion of the regulation addresses minimum number of upgradient and downgradient monitoring wells and Sections 2.1.08(c)(1)(i)(C) & (D). These regulations govern where downgradient monitoring wells can be located in relation to a waste management unit.

Navy Response to RIDEM Comment No. 4: Agree. These three subsections will be added to the list of ARARs.

RIDEM Comment – Navy response is acceptable.

5. Page 3-4, Section 3.1.2, Detailed Analysis, Alternative S-3A, Short-Term Effectiveness, Paragraph 4, Last Sentence - Based on the Navy response to Comment 1 perhaps the reference to the manufacture of steel used in sheet piles for shoring could be eliminated since a two foot deep excavation is unlikely to require shoring.

Navy Response to RIDEM Comment No. 5: The comment refers to the summary of the sustainability discussion. The Navy is not proposing to delete the reference to the potential use of shoring, so the subject text will not be revised.

RIDEM Comment – Navy response is acceptable.

6. Page 3-5, Section 3.1.2, Detailed Analysis, Alternative S-3A, Implementability, Paragraph 2, Sentence 2 – This sentence states that LUCs would be incorporated into the Land Use Control Implementation Plan (LUCIP). Please clarify that LUCs (institutional controls) would result in an environmental land use restriction (ELUR) recorded on the property's deed as described in Section 8.09 of the RIDEM Remediation Regulations, as Amended November 2011.

Navy Response to RIDEM Comment No. 6: Details regarding the establishment and enforcement of the LUCs will be developed in the LUC Remedial Design; the actual mechanisms/tools used to apply/implement the LUCs are not included in the FSA. This approach will allow the Navy the flexibility needed to determine "how" to best apply/implement the LUCs. Specification of the actual instruments/mechanisms to be used (at this time) may unnecessarily constrain or complicate the process.

RIDEM Comment – Since it is fairly certain that residential use will not be allowed on this property please explain how the Navy will implement this restriction if it is not done through an ELUR. All that RIDEM is asking is if the Navy is going to place an ELUR that it be done in accordance with Section 8.09 of the RIDEM Remediation Regulations, Amended 2011. If it is not going to be accomplished this way then please explain some of the other possibilities for accomplishing the same goal.

7. Page 3-7, Section 3.2.1, Groundwater Alternative G-3B, Description, Component 2: Monitored Natural Attenuation, Paragraph 1 – This paragraph states that because of the low frequency of detection and low concentrations that arsenic and naphthalene would not be included in the monitoring program. Since they are COCs they need to be included in the monitoring program. If after an agreed upon number of sampling rounds that these COCs do not exceed PRGs then the parties can discuss discontinuing monitoring for said COCs. RIDEM concurs that iron and manganese need not be considered in the long-term monitoring program as these constituents are considered nutrients.

Navy Response to RIDEM Comment No. 7: As noted on Page 3-6, this component is nearly identical to the same component (MNA) described for Alternative G-2 in the FS. While the Navy does not necessarily disagree with the addition of arsenic and naphthalene, specifics of the LTM program will be worked out later in the remedial design process.

RIDEM Comment – Provided that COCs can be added or deleted during the design phase of the Long-Term Monitoring Program the Navy response is acceptable.

8. Page 3-7, Section 3.2.1, Groundwater Alternative G-3B, Component 3: LUCs, Paragraph 1 – Similar to Comment 6, RIDEM is concerned that the LUC will result in an ELUR on the property in accordance with Section 8.09 of the RIDEM Remediation Regulations, as Amended November 2011. Also of concern to RIDEM is that Site 16 be used for industrial/commercial purposes with the exception of the marina which is to be used for recreational purposes and that this information is described in the ELUR. The requirement that this property be used specifically for port related activities is an issue that is of concern to the Navy, Maritime Administration and QDC and should be described separate from the ELUR.

Navy Response to RIDEM Comment No. 8: Please see Navy response to RIDEM Comment No. 6.

RIDEM Comment – See RIDEM Comment on Navy response to Comment 6.

9. Page 3-8, Section 3.2.1, Groundwater Alternative G-3B, Component 3: LUCs, Paragraph 3 – “Thus, the additional LUC would be applied to areas where VOC-contaminated shallow groundwater is present, and wherever vapor intrusion could be a potential pathway. This is assumed to be coincidental with the area where groundwater use is prohibited.” With respect to building construction the first sentence implies that there will be areas where there will be no restriction on building construction methods. For the second sentence, RIDEM was under the impression that groundwater use was to be restricted over the entire site. If groundwater use is to be restricted over the entire site then building construction methods will also be restricted over the entire site. Please confirm whether groundwater use will be restricted over the entire site and revise this paragraph as appropriate.

Navy Response to RIDEM Comment No. 9: As noted on Page 3-7, this component is nearly identical to the same component (LUCs) described for Alternative G-2 in the FS. RIDEM is correct that a LUC restricting groundwater use will likely be applied over the entire Site 16 boundary (all three parcels of land). It is also likely Parcel 7 in its entirety will have a LUC restricting groundwater use, based on upgradient conditions and other IR sites within the parcel.

RIDEM is correct that it is likely there will also be LUCs related to building construction to mitigate the potential for VI applied to all three parcels of land. This LUC would require an evaluation, and possibly require mitigation techniques be implemented. It is possible that for specific areas within each parcel that an evaluation conducted by future owners would determine actual mitigation

techniques are not necessary based on plume conditions. Because this text was accepted, no revisions will be made to the FSA.

RIDEM Comment – RIDEM is not asking the Navy to change the text in the FS, only the FSA. Please revise as appropriate.

10. Page 3-10, Section 3.2.1, Groundwater Alternative G-3B, Component 4: Contingency Remedy – Please note that any monitoring frequencies presented in the FSA are for estimating purposes and will be finalized during the remedial design.

Navy Response to RIDEM Comment No. 10: Agree that the number of wells and sampling frequency are for estimating purposes only; this will be noted in the text. Note that the subject text was taken from the description of the treatment component for Alternative G-4 in the FS.

RIDEM Comment – Navy response is acceptable.

11. Table 3-1, Chemical Specific ARARs Soil– Please include RIDEM Remediation Regulations (DEM-DSR-01-93) Sections 8.01 Remedial Objectives which are more stringent than USEPA criteria, Section 8.08 (A) and (B) Points of Compliance for Soils and Groundwater, respectively, Section 8.10 Compliance Sampling and Section 9.02 Remedial Objectives which address groundwater, surface water, sediment, soil and air remedial objectives.

Navy Response to RIDEM Comment No. 11: A final response to this comment will be provided post the planned "ARARs" teleconference scheduled for late July 2013. The following preliminary responses are provided for discussion purposes.

Table 3-1 was created from Table 4-5 from the FS, which are the ARARs for Alternative S-3. The Navy has proceeded with the development of the FS on the assumption that when comments are provided, they are comprehensive, complete, and address all concerns as presented at the time. Reaching this point in the CERCLA process and having new comments causes significant delay by requiring significant rework, re-assessment of previous positions, creates confusion, and substantially undermines our ability to implement a timely remedy to the benefit of the community.

Section 8.01 Remedial Objectives was not included because the values in Section 8.02 are being used. There are several instances where RIDEM values in the tables in Section 8.02 do not meet the requirements of Section 8.01. For example, per Table 6-50 of the RI, the RIDEM criterion for arsenic in soil is 7 mg/kg, but the criterion based on 10-6 is 3 mg/kg. Similarly, per Table 6-51 of the RI, the RIDEM GA criteria for benzene and vinyl chloride are 5 ug/L and 2 ug/L, respectively. But the criteria based on 10-6 are 1.1 ug/L and 0.09 ug/L, respectively.

Section 8.08(A) and (B) Points of Compliance for Soils and groundwater were not included because media-specific PRGs are to be met as part of the remediation process. The extent of the remediation is described in the FS and FSA. Therefore, the general description of points of compliance in this section does not provide any additional protection that is not already included in the alternatives.

Section 8.10 Compliance Sampling does not need to be included because post-remediation sampling and long-term monitoring will be developed as part on the Remedial Design.

Section 9.02 Remedial Objectives is not included because it is part of Section 9.00 Remedial Action Work Plan which is an administrative section. In any case, remedial objectives have already been described by the PRGs in the FS.

RIDEM Comment – The consideration of ARARs is an on-going process through the signing of the ROD. The development of new alternatives necessitates the re-consideration of ARARs. It would be a disservice to the community not to consider this important step. RIDEM therefore does not understand why the Navy seems to object to the consideration of ARARs for the new alternatives considered in the Feasibility Study Addendum, especially since they were derived from numerous discussions between the Navy, USEPA and RIDEM. As noted in the Navy response, the disposition of ARARs will come from the teleconference call which is to be scheduled sometime in late July.

12. Table 3-2, Location Specific ARARs Soil - Please include RIDEM Remediation Regulations (DEM-DSR-01-93) Section 8.09 Institutional Controls as this describes how ELURs are to be prepared and administered.

Navy Response to RIDEM Comment No. 12: A final response to this comment will be provided post the planned "ARARs" teleconference scheduled for late July 2013. The following preliminary responses are provided for discussion purposes.

RIDEM Comment – See RIDEM comment to Navy response for Comment 11.

13. Table 3-4, Chemical Specific ARARs Groundwater – Please include RIDEM Remediation regulations (DEM-DSR-01-93) Section 9.02 (A) groundwater Objectives requires a remedial objective for substances which have actual or potential impacts on groundwater.

Navy Response to RIDEM Comment No. 13: A final response to this comment will be provided post the planned "ARARs" teleconference scheduled for late July 2013. The following preliminary responses are provided for discussion purposes.

Table 3-4 was created from Table 4-24 from the FS, which are the ARARs for Alternative G-3A. Per the response to Comment No. 11, Section 9.02(A) Remedial

Objectives is not included because it is part of Section 9.0 Remedial Action Work Plan which is an administrative section. In any case, remedial objectives have already been described by the PRGs in the FS.

RIDEM Comment – See RIDEM comment to Navy response for Comment 11.

14. Page 4-3, Section 4.2.1, Marina Soil Remediation, Description of Component, Paragraph 2 - See Comment 1 as it not clear that shoring would be required for a two foot deep excavation.

Navy Response to RIDEM Comment No. 14: Please see the response to Comment No. 1.

RIDEM Comment – Response is acceptable.

15. Page 5-4, Section 5.1.5, Short-Term Effectiveness Soil, Paragraph 2, Sentence 4 – Please explain for Alternative S-3A how exposure to remaining contaminants that may leach from the soil into the groundwater would be addressed by the WMA. As long as the leached contaminants remain under the WMA they would not be addressed, i.e. meet PRGs, and if they migrate beyond the WMA then they would need to be addressed.

Navy Response to Comment No. 15: Comment acknowledged. Agree that contaminant concentrations beneath the WMA can be greater than PRGs. Contaminants (i.e., the VOCs) that may migrate beyond the WMA at unacceptable concentrations and pose unacceptable risk will be addressed by the contingency remedy. This has been explained elsewhere in the FSA in the discussions of the groundwater alternatives.

RIDEM Comment – Navy response is acceptable.

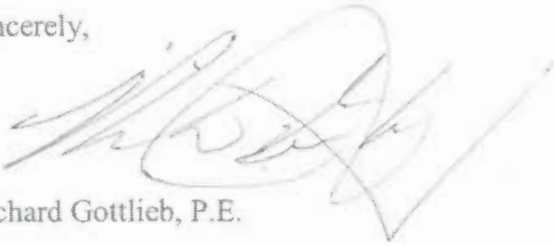
16. Comments on the Proposed Plan have been previously provided to the Navy on 26 March 2013.

Navy Response to Comment No. 16: Comment acknowledged.

RIDEM Comment – Navy response is acceptable.

RIDEM would like to thank you for the opportunity to comment on this document and looks forward to working with the Navy and USEPA. If you have any questions or require additional information please call me at (401) 222-2797 ext. 7138 or email me at richard.gottlieb@dem.ri.gov.

Sincerely,

A handwritten signature in dark ink, appearing to be 'Richard Gottlieb', written in a cursive style.

Richard Gottlieb, P.E.

Cc: M. Destefano, DEM OWM
C. Williams, EPA Region 1
D. Barney, BRAC Environmental Coordinator
S. King, RIEDC
S. Licardi, ToNK
L. Sinagoga, Tetra Tech



RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

26 March 2013

Mr. Jeffrey Dale, RPM
 U.S. Department of the Navy
 BRAC PMO, Northeast
 4911 South Broad Street
 Building 679, PNBC
 Philadelphia, PA 19112

RE: NCBC Site 16 Proposed Plan
 Davisville, Rhode Island
 Submitted 19 March 2013, Dated March 2013

Dear Mr. Dale:

The Rhode Island Department of Environmental Management, Office of Waste Management (RIDEM) has reviewed the above referenced document and comments are provided below.

1. Page 4, Column 1, Bottom Paragraph – The Quonset Davisville Navy Yacht Club is now known as the Allen Harbor Boating Association¹, please revise. In addition, please remove the phrase “restricted recreational” and simply refer to the marina portion of this site as “recreational”. Though not all inclusive, the site is not “restricted recreational” for the following reasons – 1) There are no barriers, physical or otherwise, to prevent public access to the site, 2) The site is owned by a governmental agency (Navy), will be transferred to a quasi-governmental agency (QDC) who will lease it to a non-profit entity (Allen Harbor Boating Association)^{1,2} and 3) especially during the boating season (primarily the summer months), if space is available the public can dock their boats at the Association without having to be a member¹.
2. Page 4, Column 2, Bottom paragraph – This paragraph references a NCBC Davisville base-wide background study. Please note that this study is no longer considered valid.
3. Page 6, Column 1, Paragraph 2 – “To meet the requirements of the RODs for Sites 07 and 09, periodic **monitoring** is being conducted in accordance with the Long-Term **Monitoring** Program for each site.” The Navy might want to mention the \$9 million cap that was constructed at Site 09.

4. Page 6, Column 2, Step 4 – Characterize the Risk, Bullet 1, Last Sentence – This bullet notes that there are no unacceptable risks to recreational users for surface soil. RIDEM disagrees with this portion of the statement as soil sample SB16-095 (next to building E-107) at the 0 to 2' depth for example has exceedances for benzo(a)pyrene (730 ug/kg) and chrysene (1100 ug/kg) which exceed RIDEM acceptable levels of 400 ug/kg for each constituent. Please remove the recreational user from this statement and include in the former statement which notes exceedances of acceptable levels for future residents.
5. Page 7, Exhibit 2, Carcinogens – Please change “For example, exposure to a particular carcinogenic chemical may present a 1-in-10,000 additional chance of causing cancer over an estimated lifetime of 70 years. This can also be expressed as 1×10^{-4} .” To “For example, exposure to a particular carcinogenic chemical may present a 1 additional case of cancer above normal background rates in 10,000 which would be expressed as 1×10^{-4} .” Similarly please revise the 1×10^{-6} and RIDEM 1×10^{-5} example.
6. Page 9, Table 1. Soil Cleanup Levels, Column 3, Row 1 – Please change “Residential/Restricted Residential User” to Residential/Recreational User”.
7. Page 9, Table 1. Soil Cleanup Levels, Footnote 1 - If we use benzo(a)pyrene (BaP) equivalents as a cleanup goal, please explain how we know if we exceed anyone of the seven constituents that comprise the BaP individually. For example, Indeno(1,2,3-cd)pyrene has a Residential/Recreation Direct Exposure Criteria of 0.9 mg/kg. If the concentration of this chemical were found to be 1.8 mg/kg (twice the allowable limit) it would only register as 0.18 mg/kg ($1.8 \text{ mg/kg} \times 0.1 \text{ BaP equiv.}$), much less than the 0.4 mg/kg allowed, but would still exceed the RIDEM Residential/Recreational Direct Exposure Criteria.
8. Page 9, Table 1. Soil Cleanup Levels, Footnote 4 - Please change” restricted recreational user” to recreational user”. See comment 1.
9. Page 10, Table 2, Groundwater Cleanup Levels – The Navy is proposing a cleanup level for chromium in groundwater of 214 ug/l which is based on the Facility-Wide Background Study that was done in 1996. At least 14 wells were evaluated for this study in the main center of NCBC. Of those wells tested the highest value was 214 ug/l at well MW-Z1-4. This well is about 400' east of Post Road (Route 1). This well discharges to Mill Creek which eventually discharges to Wickford Harbor. Therefore, groundwater from this well never reaches NCBC Site 16.

Well MW-Z4-1, located about 800' west of the former Building 41 at the intersection of Davisville Road and Thompson Road, had a concentration of 78.2 ug/l. Well MW-Z4-2, which is about 600' south of well MW-Z4-1 along Thompson Road was undetected for chromium. Well MW-Z3-3 located southwest of NCBC Site 02 had a chromium concentration of 16.7 ug/l. It is not clear what

the background value for chromium should be as it is possible that wells MW-Z3-3 and MW-Z4-1 have been influenced by activities at the former Building 224. In either case a cleanup level for chromium of 214 ug/l seems very high since most of the chromium samples in the wells were less than 10 ug/l. A more appropriate cleanup level for chromium would be the MCLs.

Similarly, for nickel the highest value detected was at well MW-Z1-4 at 154 ug/l. same well as above, this water never reaches NCBC Site 16. The next highest value detected was at well MW-Z4-1 at 53.3 ug/l. This is lower than the MCL of 100 ug/l. The groundwater cleanup level should be the MCL.

For thallium the highest concentration detected was 4.1 ug/l at well MW-Z2-4. This well discharges to Davol Pond and Hall Creek and would therefore not reach NCBC Site 16. The next highest value is 2.2 ug/l which is very close to the MCL of 2.0 ug/l. The groundwater cleanup level should be the MCL.

10. Page 11, Column 2, Alternative S-2, Paragraph 1 - This paragraph states that soils in the marina area would be cleaned up to residential standards, but LUCs would be implemented to maintain industrial uses and prevent residential uses. While this is fine, somewhere in this paragraph it should be explained that the cleanup to residential standards is to allow the continued recreational use of the area.
11. Page 11, Column 2, Alternative S-3, Last Sentence – This sentence seems to state that LUCs would restrict recreational use which in turn will somehow maintain a 2-foot soil cover. Perhaps this could be re-written to state that an LUC will prevent residential use of the marina area, but will allow for recreational use and another LUC will be implemented for the maintenance of a two foot soil cover and soil management plan. This comment also applies to the restriction of recreational use for Alternatives S-3A, S-4 and S-6.
12. Page 14, Alternative S-5: Excavation and Off-Site Disposal – Unrestricted Use – Please remove the reference to the marina as it is not necessary since there would be unrestricted use of the entire site, including the marina.
13. Page 14, Alternative G-3A – As part of this alternative groundwater adjacent to Allen Harbor should be monitored similar to what is proposed for Alternative G-3B since alternative G-3A also has a waste management area. This comment also applies to Alternatives G-4, G-5 and G-6.
14. Page 15, Preferred Alternative, Soil Alternative S-3A – Please remove the reference to restricted recreational land use especially since it is relating it to excavation of soils and rewrite to state that the surface soils in the vicinity of Building E-107 will be cleaned up to allow for recreational land use coupled with LUCs to prevent contact with underlying contaminated soils that will remain on site.

15. Table 3, Evaluation of Soil Alternatives, Item 4 (Reduces Mobility, Toxicity and Volume) - Alternative 2 which is just a cover and LUCs partially or potentially meets criteria, but Alternative S-3A which includes excavation does not meet the criteria. Alternative S-3A should be a full circle, not a circle with a line through it. Similarly, Alternative S-5 which is excavation for unrestricted use would entail removing all the toxicity, mobility and volume should be a filled in circle since it would exceed criteria as opposed to the full circle that is there now. Please change.

1 - Telephone conversation on 20 March 2013 between Richard Gottlieb of RIDEM and Commodore Chris Courtney of the Allen Harbor Boating Association.
2 - RIDEM Remediation Regulations, November 2011, Section 3.62

RIDEM would like to thank you for the opportunity to comment on this document and looks forward to working with the Navy and USEPA. If you have any questions or require additional information please call me at (401) 222-2797 ext. 7138 or email me at richard.gottlieb@dem.ri.gov.

Sincerely,



Richard Gottlieb, P.E.

Cc: M. Destefano, DEM OWM
C. Williams, EPA Region 1
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S. King, RIEDC
S. Licardi, ToNK
L. Sinagoga, TTNUS



RHODE ISLAND

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

10 July 2013

Mr. Jeffrey Dale, RPM
 U.S. Department of the Navy
 BRAC PMO, Northeast
 4911 South Broad Street
 Building 679, PNBC
 Philadelphia, PA 19112

RE: NCBC Site 16 Proposed Plan
 Navy Responses to RIDEM 26 March 2013 Comments
 Davisville, Rhode Island
 Submitted 26 June 2013, Dated June 2013

Dear Mr. Dale:

The Rhode Island Department of Environmental Management, Office of Waste Management (RIDEM) has reviewed the above referenced document and comments are provided below.

1. Page 4, Column 1, Bottom Paragraph – The Quonset Davisville Navy Yacht Club is now known as the Allen Harbor Boating Association¹, please revise. In addition, please remove the phrase “restricted recreational” and simply refer to the marina portion of this site as “recreational”. Though not all inclusive, the site is not “restricted recreational” for the following reasons – 1) There are no barriers, physical or otherwise, to prevent public access to the site, 2) The site is owned by a governmental agency (Navy), will be transferred to a quasi-governmental agency (QDC) who will lease it to a non-profit entity (Allen Harbor Boating Association)^{1,2} and 3) especially during the boating season (primarily the summer months), if space is available the public can dock their boats at the Association without having to be a member¹.

Navy Response to RIDEM Comment No. 1: The narrative will be modified to reference the Allen Harbor Boating Association. The phrase “restricted recreational” is used in order to convey clarity and transparency to the community. The Navy does not disagree with the points the RIDEM has provided; however, to suggest that this area is “recreational” would give a false pretense since the inference in the RIDEM Remediation Regulations definition of “recreational” use assumes remediation to “residential” criteria whereas the proposed remediation utilizes necessary land use restrictions. Please note that the

preferred remedial alternative for the Site 16 soils in the immediate vicinity of Bldg E-107 specifies the remediation of the 0-2 foot soils only to the RIDEM residential DEC's. Receptor exposure to the subsurface soils would be controlled by land use controls (LUCs)/soil management plans (SMPs). So, in effect, "unrestricted" development/use of the area is prohibited. (Please see BCT meeting notes of March 28th, 2013. RIDEM has agreed to the use of the phrase "restricted recreational" in the proposed plan.)

RIDEM Comment – RIDEM disagrees with the Navy response. For clarity, while the clean up standards are the same for residential use and recreational use the land uses and activities that will take place on the land are completely different. RIDEM concurs that residential use should not be allowed at the marina. It is anticipated that the Navy will place an ELUR on the marina property that allows for recreational use, but will prohibit residential use. With respect to "restricted recreational use" it does not meet the definition for this use as noted in Section 3.39 of the RIDEM Remediation Regulations, Amended 2011 and as outlined in the original comment.

While RIDEM at an earlier meeting agreed to the term "restricted recreational use" it was for the purpose of noting that we would restrict the marina to recreational uses. The intent was that residential use would not take place. Upon reflection, the term "restricted recreational use" would be confusing to the public as it implies something that is not the case. As originally requested, please remove the phrase "restricted recreational use". The Navy can note, however, that the marina will be "restricted to recreational use".

2. Page 4, Column 2, Bottom paragraph – This paragraph references a NCBC Davisville base-wide background study. Please note that this study is no longer considered valid.

Navy Response to RIDEM Comment No. 2: The narrative is not citing the referenced background soil dataset as the rationale for deleting chemicals of concern. The dataset does exist and the referenced statement is simply advising the reader that site concentrations exceed the NCBC Davisville background soil dataset concentrations. Importantly, the 95% UCL (on the arithmetic mean) arsenic level based on the NCBC Davisville background soil dataset is equal to the RIDEM residential/industrial DEC for arsenic (7 mg/kg) which is also a background-based number. The NCBC Davisville background soil dataset appears to support the background level derived by the state and vice versa.

RIDEM Comment – RIDEM is not saying that the study cannot be referenced, it is only saying that it is no longer considered valid as we now have updated procedures for determining background values (Section 8.06 of the RIDEM Remediation Regulations, Amended 2011). It is similar to when USEPA changes procedures and standards based on updated technology and

information. The public should be aware that the cited study is dated and may not reflect current background values. Please revise as requested.

3. Page 6, Column 1, Paragraph 2 – “To meet the requirements of the RODs for Sites 07 and 09, periodic **monitoring** is being conducted in accordance with the Long-Term **Monitoring** Program for each site.” The Navy might want to mention the \$9 million cap that was constructed at Site 09.

Navy Response to RIDEM Comment No. 3: Agree.

RIDEM Comment – Navy response is acceptable.

4. Page 6, Column 2, Step 4 – Characterize the Risk, Bullet 1, Last Sentence – This bullet notes that there are no unacceptable risks to recreational users for surface soil. RIDEM disagrees with this portion of the statement as soil sample SB16-095 (next to building E-107) at the 0 to 2' depth for example has exceedances for benzo(a)pyrene (730 ug/kg) and chrysene (1100 ug/kg) which exceed RIDEM acceptable levels of 400 ug/kg for each constituent. Please remove the recreational user from this statement and include in the former statement which notes exceedances of acceptable levels for future residents.

Navy Response to RIDEM Comment No. 4: The referenced text is stating the outcome of the baseline risk assessment, a component of the Remedial Investigation (RI) prepared for Site 16. Risk estimates presented in the RI are based on exposure point concentrations (EPCs) (that typically represent the 95 % upper confidence limit [UCL] on the arithmetic mean of concentrations detected within an exposure unit) and a set of exposure factors that represent “how” the recreational receptor is likely exposed. The risk estimates and conclusions are not based on concentrations detected at a single location or on comparisons to the RIDEM criteria. The following clarifying sentence will be added to the Proposed Plan (PP) section titled, “Summary of Results for Site 16 Human Health and Ecological Risk Assessments”: “The results of the risk assessments, prepared per standard EPA risk assessment protocol, are described below.”

RIDEM Comment – While RIDEM does not concur with the methodology, the response is acceptable.

5. Page 7, Exhibit 2, Carcinogens – Please change “For example, exposure to a particular carcinogenic chemical may present a 1-in-10,000 additional chance of causing cancer over an estimated lifetime of 70 years. This can also be expressed as 1×10^{-4} .” To “For example, exposure to a particular carcinogenic chemical may present a 1 additional case of cancer above normal background rates in 10,000 which would be expressed as 1×10^{-4} .” Similarly please revise the 1×10^{-6} and RIDEM 1×10^{-5} example.

Navy Response to RIDEM Comment No. 5: Agree.

RIDEM Comment – Navy response is acceptable.

6. Page 9, Table 1. Soil Cleanup Levels, Column 3, Row 1 – Please change “Residential/Restricted Residential User” to Residential/Recreational User”.

Navy Response to RIDEM Comment No. 6: Per BCT discussions of March 28, 2013, the referenced column heading will read, “Residential/Restricted Recreational”.

RIDEM Comment – Please change to Residential/Recreational User as originally requested. See RIDEM Comment to Navy Response for RIDEM Comment 1.

7. Page 9, Table 1. Soil Cleanup Levels, Footnote 1 - If we use benzo(a)pyrene (BaP) equivalents as a cleanup goal, please explain how we know if we exceed anyone of the seven constituents that comprise the BaP individually. For example, Indeno(1,2,3-cd)pyrene has a Residential/Recreation Direct Exposure Criteria of 0.9 mg/kg. If the concentration of this chemical were found to be 1.8 mg/kg (twice the allowable limit) it would only register as 0.18 mg/kg (1.8mg/kg x 0.1BaP equiv.), much less than the 0.4 mg/kg allowed, but would still exceed the RIDEM Residential/Recreational Direct Exposure Criteria.

Navy Response to RIDEM Comment No. 7: First, please note footnote No. 4 to Table 1 regarding the soil clean-up levels to be applied to the 0-2 bgs soils in the immediate vicinity of Bldg. E-107:

.... “The goals established for the “restricted recreational user” are the RIDEM residential land use criteria and apply to the soils in the immediate vicinity of the Marina Building only.” For clarity, the residential DEC’s for each of the carcinogenic PAHs that make up the calculated benzo(a)pyrene equivalent (BaPeq) concentration will be specified in this footnote. This is in agreement with the numerous teleconferences/meetings held over the last several months to resolve the remedial approach for surface soils in the immediate vicinity of Bldg. E-107.

Second, the remedial level presented in the Feasibility Study (FS) for the BaPeqs in soil for the hypothetical future resident is 0.15 mg/kg. This is a risk-based goal derived based on the methodology presented in the Phase III remedial investigation report. This remedial level represents the 1E-05 cancer risk level, the State of Rhode Island cumulative cancer risk benchmark. Per our E-mail correspondence exchange of March 25, 2012 (see Attachment A, from Ms. Lee Ann Sinagoga to Mr. Richard Gottlieb), from a risk perspective, setting the remedial level for the BaPeq’s (representing the carcinogenic PAHs as a group) at 1E-05 is more conservative than specifying the RIDEM residential DEC’s for

each of the individual carcinogenic PAHs. In fact, the cancer risk estimate associated with the RIDEM residential DEC for benzo(a)pyrene alone (0.4 mg/kg) is $3E-05$ (for the hypothetical future resident). However, since the RIDEM residential DEC is not strictly risk-based numbers (please see the footnotes applied to Table 1 of the RIDEM regulations), it is possible that a location might have a chrysene concentration (for example, a concentration of 0.5 mg/kg) greater than its associated RIDEM residential DEC (0.4 mg/kg) but, if chrysene was the only PAH detected (an unlikely scenario), the calculated BaPeq concentration would be less than the 0.15 mg/kg. Per previous BCT discussions, the Navy has evaluated that cPAH data set for the Site 16 NCA area to assure that all locations with exceedances of the residential DEC were identified and evaluated in the FS for Site 16 (when the hypothetical future residential land use was evaluated). Conservatively, footnote 4 of Table 1 will be amended to state that the remedial levels for the cPAHs in soil for the hypothetical future land use will be 0.15 mg/kg for the cPAHs (as a group) calculated in terms of the BaPeq's and the RIDEM residential DEC for each individual cPAH.

Third, the remedial level presented in the FS for the BaPeqs in soil for the industrial land use scenario is 0.8 mg/kg (which is the risk-based goal derived for the recreational user as defined in the Phase III RI report). The RIDEM industrial DEC for benzo(a)pyrene is also 0.8 mg/kg. In contrast to the RIDEM residential DEC, the RIDEM industrial DEC does appear to be risk-based numbers. Although they are calculated using methodology different from the standard EPA methodology used in the Phase III RI, the RIDEM industrial DEC does appear to be calculated using the same relative potency factors used by the EPA for the cPAHs. Therefore, the issue raised in the reviewer's comment does not occur. For example, whereas the RIDEM residential DEC for benzo(a)pyrene and chrysene are the same (0.4 mg/kg), the RIDEM industrial DEC for chrysene (780 mg/kg) is 3 orders of magnitude greater than the RIDEM industrial DEC for benzo(a)pyrene (0.8 mg/kg). Whereas the RIDEM residential DEC for indeno(1,2,3-cd)pyrene (0.9 mg/kg) is approximately twice the RIDEM residential DEC for benzo(a)pyrene (0.4 mg/kg), the RIDEM industrial DEC for indeno(1,2,3-cd) (7.8 mg/kg) is one order of magnitude greater than the RIDEM industrial DEC for benzo(a)pyrene (0.8 mg/kg). These order-of-magnitude differences in the RIDEM industrial DEC reflect the EPA's current relative potency factors (i.e., benzo(a)pyrene is considered 1000 times more potent than chrysene, as a carcinogen).

RIDEM Comment – Navy response is acceptable.

8. Page 9, Table 1. Soil Cleanup Levels, Footnote 4 - Please change "restricted recreational user" to recreational user". See comment 1.

Navy Response to RIDEM Comment No. 8: Per BCT discussions of March 28, 2013, the referenced text will not be changed.

RIDEM Comment – Please change “restricted recreational user” to “recreational user”. See RIDEM Comment to Navy Response for RIDEM Comment 1.

9. Page 10, Table 2, Groundwater Cleanup Levels – The Navy is proposing a cleanup level for chromium in groundwater of 214 ug/l which is based on the Facility-Wide Background Study that was done in 1996. At least 14 wells were evaluated for this study in the main center of NCBC. Of those wells tested the highest value was 214 ug/l at well MW-Z1-4. This well is about 400' east of Post Road (Route 1). This well discharges to Mill Creek which eventually discharges to Wickford Harbor. Therefore, groundwater from this well never reaches NCBC Site 16.

Well MW-Z4-1, located about 800' west of the former Building 41 at the intersection of Davisville Road and Thompson Road, had a concentration of 78.2 ug/l. Well MW-Z4-2, which is about 600' south of well MW-Z4-1 along Thompson Road was undetected for chromium. Well MW-Z3-3 located southwest of NCBC Site 02 had a chromium concentration of 16.7 ug/l. It is not clear what the background value for chromium should be as it is possible that wells MW-Z3-3 and MW-Z4-1 have been influenced by activities at the former Building 224. In either case a cleanup level for chromium of 214 ug/l seems very high since most of the chromium samples in the wells were less than 10 ug/l. A more appropriate cleanup level for chromium would be the MCLs.

Similarly, for nickel the highest value detected was at well MW-Z1-4 at 154 ug/l. same well as above, this water never reaches NCBC Site 16. The next highest value detected was at well MW-Z4-1 at 53.3 ug/l. This is lower than the MCL of 100 ug/l. The groundwater cleanup level should be the MCL.

For thallium the highest concentration detected was 4.1 ug/l at well MW-Z2-4. This well discharges to Davol Pond and Hall Creek and would therefore not reach NCBC Site 16. The next highest value is 2.2 ug/l which is very close to the MCL of 2.0 ug/l. The groundwater cleanup level should be the MCL.

Navy Response to RIDEM Comment No. 9: The Basewide Ground Water Inorganics Study was conducted, in part, to determine background values that may be used when “performing feasibility studies and for evaluating remedial alternatives at the Main Center and West Davisville areas of NCBC”. (See page 43 of the subject background report.) Site 16 is within the “Main Center” of the former NCBC Davisville facility. The inorganic background values recommended in the study are not (and were never intended to be) “specific” to any one particular site at the former NCBC Davisville; rather, they represent inorganic groundwater chemistry not affected by historic Naval operations in these general areas. As indicated in the report, the values represent both naturally occurring inorganic concentrations as well as typical non-Navy-related anthropogenic

influences on the inorganic chemistry of the groundwater (see page 37 of the report).

RIDEM Comment No. 9 appears to suggest that the basewide background study was not finalized or accepted by EPA/RIDEM. Unfortunately, the Navy was not aware that the Final Base Wide Inorganics Study prepared by Stone and Webster in 1996 was no longer considered valid by RIDEM or EPA. The Navy requests additional technical information as to why and when this determination was made. We also request clarification via what mechanism of the Federal Facilities Agreement the Navy was notified that a final document was no longer considered valid. While this determination may be appropriate under Section 7.9, proper notification was never made to the Navy by either regulatory party. This notification should identify the nature of the modification to a final document; and what "significant new information" is available to support the proposed changes to the final document.

The Navy is at the PP stage of the environmental work at Site 16. Given the potential importance of background values, the notification referenced above should have been made in a timely manner so that the issue could be resolved and would not impact progress for Site 16. If metals were significant groundwater contaminants at Site 16, the lack of approved background values may have had a more significant impact on remedial decision making for the site. However, since metals are not significant groundwater contaminants at Site 16 and for purposes of finalizing the PP for Site 16, the Navy agrees that the groundwater clean-up levels for the referenced metals in Table 10 of the PP simply read "Facility-Wide Background or MCL whichever is higher" (as recommended in EPA Comment No. 45) with the understanding that the Navy, EPA, and RIDEM will resolve this issue during the preparation of the long-term monitoring plan for Site 16.

RIDEM Comment - RIDEM concurs with the Navy response to the extent that we will resolve the groundwater clean-up levels during the preparation of the long-term monitoring plan for NCBC IR Site 16.

10. Page 11, Column 2, Alternative S-2, Paragraph 1 - This paragraph states that soils in the marina area would be cleaned up to residential standards, but LUCs would be implemented to maintain industrial uses and prevent residential uses. While this is fine, somewhere in this paragraph it should be explained that the cleanup to residential standards is to allow the continued recreational use of the area.

Navy Response to RIDEM Comment No. 10: Agree. The referenced sentence will be changed to read, "....backfilled with clean soil to the existing grade to allow for continued marina use at the ground surface."

RIDEM Comment - Navy Response is acceptable.

11. Page 11, Column 2, Alternative S-3, Last Sentence – This sentence seems to state that LUCs would restrict recreational use which in turn will somehow maintain a 2-foot soil cover. Perhaps this could be re-written to state that an LUC will prevent residential use of the marina area, but will allow for recreational use and another LUC will be implemented for the maintenance of a two foot soil cover and soil management plan. This comment also applies to the restriction of recreational use for Alternatives S-3A, S-4 and S-6.

Navy Response to RIDEM Comment No. 11: Generally agree. The referenced text will be changed to state that, "LUCs would be implemented that would prevent residential use of the marina area, allow for recreational use associated with the marina, maintain the 2-foot cover, and implement a soil management plan."

RIDEM Comment – Navy response is acceptable.

12. Page 14, Alternative S-5: Excavation and Off-Site Disposal – Unrestricted Use – Please remove the reference to the marina as it is not necessary since there would be unrestricted use of the entire site, including the marina.

Navy Response to RIDEM Comment No. 12: Agree.

RIDEM Comment – Navy response is acceptable.

13. Page 14, Alternative G-3A – As part of this alternative groundwater adjacent to Allen Harbor should be monitored similar to what is proposed for Alternative G-3B since alternative G-3A also has a waste management area. This comment also applies to Alternatives G-4, G-5 and G-6.

Navy Response to RIDEM Comment No. 13: Agree. The additional monitoring will be noted along with the description of the MNA monitoring.

RIDEM Comment – Navy response is acceptable.

14. Page 15, Preferred Alternative, Soil Alternative S-3A – Please remove the reference to restricted recreational land use especially since it is relating it to excavation of soils and rewrite to state that the surface soils in the vicinity of Building E-107 will be cleaned up to allow for recreational land use coupled with LUCs to prevent contact with underlying contaminated soils that will remain on site.

*Navy Response to RIDEM Comment No. 14: The phrase "restricted recreational land use" is specifically used because the preferred alternative specifies the remediation of surface soils **only** to RIDEM residential DEC's. As explained in the text at the top of page 16, "Restricted recreational land use is specified because unauthorized excavation and/or disposal of soils greater than 2 feet bgs would be*

prohibited under soil alternative S-3A." (Please see BCT meeting notes of March 28th, 2013. RIDEM has agreed to the use of the phrase restricted recreational in the proposed plan.)

RIDEM Comment – The term "restricted recreational land use" implies that recreational use is restricted. What is restricted is the digging into the soil, not the recreational activity that is taking place at the surface. This is why the two foot soil cover will be coupled with LUCs and a soil management plan. The term "restricted recreational land use" is confusing to the public. See Comment 1.

15. Table 3, Evaluation of Soil Alternatives, Item 4 (Reduces Mobility, Toxicity and Volume) - Alternative 2 which is just a cover and LUCs partially or potentially meets criteria, but Alternative S-3A which includes excavation does not meet the criteria. Alternative S-3A should be a full circle, not a circle with a line through it. Similarly, Alternative S-5 which is excavation for unrestricted use would entail removing all the toxicity, mobility and volume should be a filled in circle since it would exceed criteria as opposed to the full circle that is there now. Please change.

Navy Response to RIDEM Comment No. 15: Agree.


RIDEM Comment – Navy response is acceptable.

1 - Telephone conversation on 20 March 2013 between Richard Gottlieb of RIDEM and Commodore Chris Courtney of the Allen Harbor Boating Association.

2 - RIDEM Remediation Regulations, November 2011, Section 3.62

RIDEM would like to thank you for the opportunity to comment on this document and looks forward to working with the Navy and USEPA. If you have any questions or require additional information please call me at (401) 222-2797 ext. 7138 or email me at richard.gottlieb@dem.ri.gov.

Sincerely,



Richard Gottlieb, P.E.

Cc: M. Destefano, DEM OWM
C. Williams, EPA Region 1
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